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VOL. VI.] JANUARY, 1898. [No. 61

THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW

EULOPHIELLA PEETERSIANA.

(*See page 357.*)

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THE ORCHID REVIEW

An Illustrated Monthly Journal

DEVOTED TO ORCHIDOLOGY

VOLUME VI

1898

London:

MARSHALL BROTHERS, KESWICK HOUSE, PATERNOSTER ROW, E.C.

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Mo. Bot. Garden
1906

"The Burman books tell us (says Dr. Mason) that the trees round King Wathandria's hermitage were covered with Orchids, and that after being plucked they would retain their fragrance for seven days." King Wathandria (whoever that worthy potentate may have been) must either have been in great favour with the Nâts, supposing, as is highly probable, that they placed the Orchids there for his special delectation; or, if he were his own collector, he certainly displayed very good taste, and an early appreciation of 'the beautiful' in Nature; for, assuredly, out of all Flora's choice and bounteous store, nothing could have been drawn more worthy of royal regard. It is with Orchids still that the wealthy and the great love to surround themselves in countries where these lovely flowers are strange and exotic; and this at a cost which would probably have astonished good King Wathandria, and which, in the aggregate, is worth a king's ransom."—PARISH.

THE ORCHID REVIEW.

VOL. VI.] *JANUARY*, 1898. [No. 61.

NOTES.

THE Royal Horticultural Society will hold its first meeting for the year, at the Drill Hall, James Street, Westminster, on January 11th, when the Orchid Committee will meet at the usual hour, 12 o'clock, noon.

The first meeting of the year of the Manchester and North of England Orchid Society is fixed for January 13th, at the Coal Exchange, Market Place, Manchester. The Committee meets at noon, and the exhibits are open to inspection from one to four o'clock. We are requested to call attention to the following special notice:—

Members are requested to observe the following Rules:

1.—All exhibits submitted for adjudication must be duly entered on the "DECLARATION FORM" (See Rule 14) at the Hon. Secretary's table, and STAGED NOT LATER THAN 11.30 a.m., otherwise the plants cannot be acknowledged.

2.—NO EXHIBIT may be removed from the tables until 4 p.m.

3.—Members are required to state PARENTAGE OF ALL HYBRID ORCHIDS submitted for adjudication when and wherever possible, otherwise they are liable to disqualification.

A fine flower of the beautiful Lycaste Skinneri alba is sent from the collection of Richard Ashworth, Esq., of Newchurch, Manchester, by Mr. Pidsley, the colour being of the purest white, with the exception of a little pale yellow on the disc of the lip.

Lælia autumnalis atrorubens is a very richly coloured form of the

species, of which a good flower has been sent from the collection of H. Brittan Evans, Esq., of Clifton, Bristol. Its brilliant colour renders it one of the most beautiful of autumn-flowering forms.

Flowers of two distinct forms of Cypripedium × Allanianum are sent by Mr. W. B. Latham, of the Birmingham Botanical Gardens, one being very richly coloured. The hybrid was first raised by Messrs. Pitcher and Manda, from C. Spicerianum ♀ and C. Curtisii ♂, and was described at page 22 of our second volume. The present forms were raised by Mr. Latham.

A distinct and pretty form of Lælia anceps is sent from the collection of F. M. Burton, Esq., Highfield, Gainsborough, in which the front lobe of the lip is rather narrow and of a very deep maroon-purple. The sepals and petals are light rose-pink. It is accompanied by a good example of the typical form.

Lælia anceps rosea is a beautiful light rose-pink variety, of which a flower has been sent from the collection of J. Bradshaw, Esq., The Grange, Southgate. The varieties Hilliana and blanda are very nearly allied.

Respecting the seedling "Thunias" mentioned at page 298 of our last volume, Mr. Appleton writes that he has never had a grain of seed of that genus, and suspects the seedlings belong to a cross "*Zygopetalum* maxillare × Mackayi" which he made; time, however, will prove. It only affords an illustration of the well-known difficulty of distinguishing some of these plants in their infantile stages.

Cypripedium callosum Rossianum is a variety with unusually long narrow petals, from the collection of H. J. Ross, Esq., of Florence, which was described at page 64 of our second volume. The same form has appeared in the collection of Mrs. Hollond, Wonham, Bampton, Devon. It is very distinct from the typical form, but appears to be only a variety of it.

An unusually fine form of Odontoglossum × mulus is sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens. It bears the name O. × cuspidatum magnificum, and presumably agrees with a variety recently certificated under this name. O. × cuspidatum, however, is only a small flowered form of O. × mulus, in which the characters of O. gloriosum are most apparent, while in the present one, as in the original O. × mulus, the influence of O. luteopurpureum preponderates.

Dendrobium aureum cinnamomeum is a distinct and pretty variety of this handsome winter-flowering Dendrobium, which is characterised by having the sepals and petals suffused with copper-colour or light cinnamon. It has appeared in the collection of F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey, among recently imported plants, and is now flowering for the first time.

DIES ORCHIDIANÆ.

"DEAR ARGUS,—A Happy New Year to you, from one of your readers, and many of them. Go on and prosper. Continue to encourage the good and denounce the bad; to point out the paths which make for progress in the culture of our favourites, and generally continue the enlightened policy which has made the *Orchid Review* a power in the land. Those five completed volumes occupy an honoured place on our shelves. May the work flourish still more abundantly in the future, and enlist the support of all lovers of these beautiful plants, which it so richly deserves."

It is very kind of my correspondent, and I reciprocate his amiable sentiments, but don't give me all the credit for those five volumes. I have done a little, it is true, and am glad to find that my efforts meet with approval. As to the future, I hope still to contribute my share, and shall be glad of the support of all my readers, many of whom could communicate valuable facts which come within the range of their observation. Send them along, and not make the mistake of supposing them of no importance, or valuable information may be lost. The *Review* has been very well supported in this direction during the past year, and I hope to see it increasingly so in the future.

In this connection I may allude to the remarkable specimen of Cattleya × Hardyana, figured as the frontispiece to the last volume. It is extremely rare to find such vigorous root action in an Orchid, yet that is one of the great secrets of success, and as the treatment adopted has been recorded, I hope to see other specimens of the kind in future. The photograph supplies a splendid object-lesson.

It also throws an interesting side light on the old question of manure for Orchids, which has again come so prominently to the front. Orchids must have food of some kind, call it manure or what you will, and Mr. Hamilton, at page 359, brings forward some interesting evidence on the subject. But admitting, for the sake of argument, that manure in

some shape or form is essential, how is it to be given to such a plant, seeing that nearly all its roots are in the air? Clearly it must be either in the water supplied or in the air, and yet we have no evidence of the former. The fact that the roots are in the air implies that they obtain their food there, and depend upon it there is some connection between aerial roots and aerial manures. As to manure water, Mr. Hamilton remarks:—"I have proved again and again that one handful of guano in a 150-gallon tank improves Dendrobes, Cattleyas, Lælias, Cœlogynes, and—who would think it?—Odontoglossums even." And why not?

That Cattleya × Imperator question (page 365) affords some interesting food for reflection. "It has hitherto only been named in the vernacular," Mr. Rolfe observes, "and the name now proposed conserves the orignal idea as nearly as possible, consistent with the requirements of botanical nomenclature." It was originally named Cattleya × Le Czar, but we on this side the water, of course, promptly changed it to Cattleya × The Czar. I suppose the Germans when they come to deal with it will dub it Cattleya × Der Czar, and the Russians—surely they have an interest in it—must also be allowed to use the vernacular, even if "Czar" must be changed into "Tsar." And when we have had enough of this sort of thing, somebody will ask again—"Shall we ever have a universal language?" It would appear that the vernacular is not in accordance with the requirements of botanical nomenclature, and, therefore, that the law of priority does not apply. At least this is all I can make of it at present, but I shall watch future developments with interest.

The foregoing opens up another interesting little question. Some years ago the Royal Horticultural Society were so dissatisfied with the methods of naming plants then in vogue that they appointed a Nomenclature Committee, who, after mature deliberation, made certain recommendations, which were adopted by the Society and printed amongst its reports. One of these rules was that hybrids between distinct species should be named in Latin, and there was a further recommendation that their names should conform to the laws of botanical nomenclature. It is notorious that these recommendations have been ignored, and the result in the case of the hybrids between Cypripedium barbatum and bellatulum I have alluded to on more than one occasion, claiming that the proper name of this hybrid is C. × Richmanii. The moral is obvious.

ARGUS.

THE HYBRIDIST.

Lælio-Cattleya × Weedoniensis.

Another interesting hybrid has flowered in the collection of T. W. Thornton, Esq., Brockhall, Weedon, of which a flower has been received, with the record "raised from Cattleya violacea × Lælia purpurata, now flowering for the first time with two flowers; crossed May 2nd, 1887, sown March 14th, 1888." Cattleya violacea is presumably C. Loddigesii, and the present hybrid, so far as we can find, is an addition to the list. It is fairly intermediate in character between its parents, and somewhat approaches L.-c. × Tresederiana (C. Loddigesii × Lælia crispa) in general character. The flower is white, with some deep purple in front of the somewhat three-lobed lip. The plant has obviously not yet reached its normal development.

Odontoglossum × Adrianæ.

A very interesting and pretty like hybrid, raised by Messrs. Linden, between O. crispum and O. Hunnewellianum, the former presumably the seed parent. It flowered at Moortebeek, and received a First-class Diploma of Honour at a meeting of the Orchideenne on April 11th, 1897. According to a figure in *Lindenia* (t. 590), it is quite intermediate between the parents. The flowers are white, densely spotted all over with brown, and margined with light yellow on the sepals and petals. Most of the spots on the lip, especially those round the margin, are minute. It is dedicated to Madame P. Gloner (*nee* Adrienne Linden).

ORCHIDS OF TROPICAL AFRICA.

An additional part of the *Flora of Tropical Africa* has just appeared, containing an account of the Orchids of that region, or rather the greater part of them, the remainder being left over for a future part. The work was interrupted in 1877, on completion of the third volume, but is now being continued, the Petaloid Monocotyledons being taken first. The Orchids are elaborated by Mr. R. A. Rolfe, and the part now issued carries the work to the beginning of the tribe Ophrydeæ. Those completed are, Epidendreæ, 9 genera and 80 species, Vandeæ, 10 genera and 353 species, and Neottieæ, 10 genera and 29 species, while Ophrydeæ, with 16 genera, stands over for a future part. Thus 46 genera occur in Tropical Africa, and in a note which appeared elsewhere the aggregate number of species was estimated at fully 700, showing that the group forms a much more important element in the Flora than was formerly supposed. Epiphytic species are far less numerous than in Tropical America and Asia, but are represented by a proportion of about one-

third, for we find 74 species enumerated under Polystachya, 48 under Angræcum, 52 under Listrostachys, 19 under Mystacidium, 41 under Bulbophyllum, and 20 under Megaclinium, beside a few others. Of the genera at present treated, Lissochilus heads the list with a total of 83 species, while 65 are credited to the closely allied Eulophia, two or three of them being epiphytic.

Two new genera are described, Ancistrochilus and Podandria, the latter allied to Habenaria, but remarkable for its long-stalked anther, and the former based on Pachystoma Thompsonianum, a plant well known in cultivation, of which it is remarked :—"A curious little monotype, originally referred to the Asiatic genus Pachystoma by Reichenbach, with which, as pointed out in the *Botanical Magazine* (t. 6471), it neither accords in floral character nor in the structure of the pollinia. It belongs to the same group, but is readily distinguished by the pollinia being united to a single stipitate appendage, as well as by the remarkable lip and spreading segments." Its name is now A. Thomsonianus. Many new species also appear for the first time, over twenty of them in Eulophia. The species are for the most part very local, very few being common to East and West Africa, and still fewer reaching South Africa or the Mascarene Islands. One species, however, forms a marked exception to this rule, namely Epipogum nutans, a leafless saprophyte, which is found at Ambas Bay in the Cameroons, also in North and South India, Ceylon, Java, and Australia. The presence of two species of the northern genus Epipactis, one in Somaliland and another on Mt. Ruwenzori, is also interesting.

Showy species suitable for cultivation are rare, and comprise chiefly the Ansellias, the remarkable Lissochilus giganteus and a few others of the genus, and a few species of the Angræcum group, but others appear in botanical collections, as certain species of Megaclinium, Polystachya, the remarkable Bulbophyllum barbigerum, and others.

The work contains complete descriptions, with keys to the genera and species, references and synonymy, and full geographical distribution, and forms an important addition to our knowledge of the group, especially as the information had not previously been brought together.

PAPHIOPEDIUM SEED AND THE TIME TO SOW IT.

I HAVE heard it suggested and even asserted by Orchid hybridisers that when a seed pod happens to become ripe in late autumn, or in the winter, it is better to put it on one side, carefully labelled, and to defer the sowing until the early spring. To this I have replied in my own mind: How to they know? They cannot yet have had sufficient time or experience do make their opinion of any practical value.

Now, this same idea has come to me in the form of a question. A correspondent writes asking me whether it would be wise to sow some seed (Paphiopedium ♀ × Cypripedium ♂) now, or wait until February or March, when the spring-time is at hand. Before answering his letter, I took out particulars of all operations successfully conducted in my houses, of which the subjoined table is a copy :—

Table showing the number of successful sowings of Paphiopedium seed, sown during the months specified, in the years 1892 to 1897 inclusive.

January ...	...	72 sowings	...	26 batches of seedlings.	
February ...	...	24 ,,	...	6 ,,	,,
March ...	...	32 ,,	...	5 ,,	,,
April ...	...	19 ,,	...	3 ,,	,,
May ...	...	14 ,,	...	1 ,,	,,
June ...	...	10 ,,	...	1 ,,	,,
July ...	...	13 ,,	...	0 ,,	,,
August ...	...	31 ,,	...	3 ,,	,,
September	...	33 ,,	...	4 ,,	,,
October ...	...	44 ,,	...	9 ,,	,,
November	...	99 ,,	...	17 ,,	,,
December	...	102 ,,	...	31 ,,	,,

All these crosses have been effected by my gardener, Mr. Thomas J. Poyntz, with very few exceptions, in my presence, and a most careful record has been kept. In giving these columns of figures, I leave it to anyone sufficiently interested to form a conclusion as to the percentage of success and failure, a task by no means so easy as would appear at first sight. The question arises : At what date should a sowing be written off as a failure ? The very last find I had was two seedlings on the 16th December, 1897, the seed having been sown as far back as the 7th December, 1895, and I have a record of still longer intervals between the sowing of the seed and the appearance of seedlings. Personally, I never cross off any sowing as a failure until the plant on which the seed has been sown has been re-potted.

From past experience, I confidently anticipate a fair amount of success from the sowings of 1897, while those of 1896 may reasonably be expected to produce a few more batches of seedlings. The number of successes in 1896 in my collection, referring only to Paphiopedium seedlings, numbered 30, and in 1897 they numbered 33.

If the proportion appears small, it should be remembered that I have been very persistent in trying crosses over and over again that have refused to show any good result. Among others that may be named under this

head are Paphiopedium niveum, P. Godefroyæ, P. × vexillarium superbum, and numerous young hybrids, probably too young to do duty of this nature. I do not mean that I have had no success with the above, for I have seedlings coming on in which all three of them have taken part respectively.

As these statistics cover a period of six years, and every instance of seedlings resulting is therein recorded, they may be worthy of attention. A glance at the table goes to show that the winter months are absolutely the best and the summer months the worst in which to sow Paphiopedium seed. Granted that more pods ripen during the winter than in summer, and hence more seed is sown, I think it will be conceded that no good object is likely to be gained in postponing the sowing of the seed to brighter weather.

It should be distinctly understood that these remarks apply to Paphiopedium seed only, and not to Dendrobium, Cattleya, or Lælia seed, which may possibly benefit by more sunlight. On these I do not venture an opinion, as I have had little or no experience.

Sefton Park,
Liverpool.

REGINALD YOUNG.

DESTRUCTION OF COCKROACHES.

A CORRESPONDENT has sent us specimens of a large brown cockroach which has proved very destructive to Orchids, with request for information as to the best means of exterminating them. A certain method of capturing them is to get some smooth jars, and put a little strong-smelling brown treacle at the bottom, standing the same close to the wall or other object behind which they hide in the daytime. The treacle acts as a powerful attraction to the insects, which being unable to retain their foothold on the smooth sides, fall in and are drowned. It is a most effective trap, and if persevered in long enough, should suffice to exterminate them, except in places where a fresh supply is kept up from an outside source, and even in the latter case it keeps their numbers down very effectually. They are easily caught before reaching the mature stage, and in this lies the hope of effecting something like a permanent cure. One, however, must be constantly on the alert, as they are so frequently re-introduced in the packing materials, and may do much damage before they are discovered. The treacle may be thinned with a little water, and the insects captured should be removed every morning. Our correspondent, to whom the above information was sent, replies that he has already captured a number of the pests, which are most troublesome in the warmer houses. Beetle poison may also be used, but can hardly be more effective. We shall be glad to hear of the experiences of others who may have been troubled with these voracious pests.

VARIETIES.

No question with which we have to deal is of such general interest, and at the same time so difficult, as that of naming and distinguishing the varieties of the different Orchids which we cultivate. Several of our most popular species exhibit a surprising amount of variation as compared with others, and while it constitutes one of their chief charms, it is also a source of perplexity. As we do not care to grow essentially different things under the same name, we adopt the practice of giving varietal names to distinguish them, and here it is that the difficulty comes in. In the case of species, the botanical system of properly recording them and describing their characters prevents confusion arising to a very great extent, though it is not altogether absent, but in the case of varieties it is very different. Some of the latter, of course, are properly described, and a certain amount of care is taken not to introduce confusion by re-describing old ones, but with many others this is not the case. In fact, the names of multitudes of varieties are on record which it is impossible to identify, owing to the absence of all description. And proper care is not always taken before naming them to see that they are really distinct. The result is that the nomenclature of varieties is in a state of hopeless confusion, and, unfortunately, we see no immediate hope of improvement. On the contrary, the confusion seems to be growing worse almost every day, for Reports of the different Shows often contain names of new varieties without any description of their character, and how it is possible to identify the plants afterwards is beyond our power to imagine. It may be suggested that this is the fault of the reporter, though, apart from want of time, it is difficult to say how many of them are to be distinguished, were he to attempt it. For example: we recently found a well-known variety, of which all existing pieces are subdivisions of one original plant, exhibited under its correct name but with an addition, which, not to identify it too closely, we will call Mr. Blank Blank's variety. The plant already had a varietal name, and the addition of another, which added four words and no less than eighteen letters to the name, was altogether unnecessary, and worse than useless when the origin of the plant is considered. It may be urged that this was an exceptional example, but there are plenty of others very little better. We have repeatedly omitted names of this kind, as, of course, in the case just mentioned, but occasionally such plants receive an award, and the name is recorded, though the award is not always a guarantee of its distinctness. Naming varieties of some of our popular garden Orchids is now a most difficult matter, and as we do not wish it to become impossible, we hope that steps will be taken, both by example and precept, to check this rapidly growing evil. Let those who would make

new varieties first make sure of their novelty and distinctness; next, let them choose a suitable name; and, lastly, let them always put their characters on record.

OBITUARY.

THE death of Mr. James Bateman, M.A., F.R.S., which took place at his residence, Spring Bank, Victoria Road, Worthing, removes probably the oldest Orchidist among us, and thus severs a remarkable link with the past. Not only had Mr. Bateman reached the mature age of 86, but his active connection with Orchids dates back to a period of nearly seventy years ago, and for many years he was a great enthusiast and one of the leading cultivators of the day. He also despatched an expedition in search of them, published the biggest book yet devoted to them, and wrote and lectured about them. Such a career deserves more than a brief notice.

His first connection with Orchids is thus described by Mr. Bateman with his own pen :—" I was devoted to Orchids long before I knew what an Orchid was, indeed, the word itself was quite strange to me when I heard my mother apply it to a beautiful plant with spotted leaves and speckled flowers which I had gathered in a country lane and regarded with great admiration. 'That,' she said, 'is an Orchis (*O.muscula*).' I must have been then about eight years old, but I was more than eighteen when, the scene being shifted to Oxford, I stepped into a nursery situated where Keble College now stands and kept by the veteran Fairburn, who had been gardener to Prince Leopold and Sir Joseph Banks. This sealed my fate! Presently Mr. Fairburn drew my attention to a curious plant with leathery leaves and several stout roots feeling their way amongst a number of small pieces of wood to which it was expected they would become permanently attached. 'Here,' he said, 'is a piece of the famous Chinese air plant (*Renanthera coccinea*) which flowered under my care when gardener to H.R.H. Prince Leopold, at Bushey Park; would you like to see a drawing of it?' 'As you please.' It was certainly a vision of beauty that Mr. Fairburn, opening a volume of the *Botanical Magazine*, t. 2997-2998—showed me, for here was a perfect portrait of the Chinese air plant, full size and correctly coloured. Of course I fell in love at first sight, and as Mr. F. only asked a guinea for his plant (high prices were not yet in vogue) it soon changed hands and travelled with me to Knypersley, when the Christmas holidays began. I had caught my Orchid, but how to treat it I knew not" (*Veitch Man. Orch.*, x., p. 130). This, as Messrs. Veitch remark, was the beginning of the collection afterwards formed by Mr. Bateman at Knypersley Hall, in Cheshire. And, by the way, this nucleus of the collection brought further trouble upon young Bateman, then a gentleman commoner at

Magdalen College, Oxford, for, doting too long on the charms of Renanthera, he stayed out beyond the prescribed period, and incurred the wrath of the Vice-President of the College—no less a person than Dr. Daubeny, who afterwards became Professor of Botany at the University—and for a punishment was commanded to write, not a compulsory eulogium in the choicest Greek iambics of the syren Renanthera, but to copy out half the Psalms (*Gard. Chron.*, 1897, xxii., p. 400).

In 1833, with his father's permission, Mr. Bateman sent the late Mr. Colley to British Guiana, to collect Orchids and other plants, and in 1835 he contributed a very interesting account of the expedition, based on Mr. Colley's report, to Loudon's *Gardener's Magazine* (p. 1.), from which we learn that Colley left Liverpool on December 24th, 1833, and arrived at Georgetown, Demerara, on February 20th, 1834, finding the Colony suffering severely from drought, scarcely a flower being seen, and most of the pseudobulbs having lost their leaves; but with the compensating advantage that they travelled like Dutch bulbs. About sixty different kinds reaching home alive, of which a third were new to European collections. One of these was Batemania Colleyi, in which Dr. Lindley commemorated both the collector and his employer.

Some interesting details were given, including a graphic account of the "struggle for life" and "vegetable retribution." Most of the Orchids were described as very local, except Catasetum tridentatum and Stanhopea grandiflora, which were found in every part of Demerara. In 1894, nearly sixty years afterwards, Mr. Bateman's remembrances of this expedition were given to Mr. James O'Brien in a letter, which has now appeared in the *Gardeners' Chronicle* (Dec. 11th, p. 410), and we venture to repeat it, as giving "a glimpse of the enthusiast as he was in his declining days, but still retaining his fine intellect, and that pleasing way of putting things which formed a great feature in his lectures at the Royal Horticultural Society."

"It has been a great pleasure to me to revive memories of my first experience in Orchid importing. I sent (with my father's permission) a man of the name of Colley to collect Orchids in Demerara. He was under the protection of the two great Liverpool merchants, Moss and Horsfall, on whom he was authorised to draw to the extent of £200 or £300. Colley did his best, and found abundance of Orchids, *i.e.*, of Catasetums and yellow-flowered Oncidiums, which then were not worth their freight. The only new plant worthy of cultivation was a species of Rodriguezia or Burlingtonia, with large white flowers, which flowered beautifully and then died. There is a beautiful white Catasetum in the Demerara woods, but Colley was not fortunate enough to meet with it, indeed, it has not been found until a very recent period. All this reads like a very poor speculation, but

that was not the case. You have heard, no doubt, of Oncidium Lanceanum, which Lance discovered in Surinam a year or two before Colley went to Demerara. He (Lance) only sent over two or three plants to England, which made Orchid collectors mad. It had never been found in Demerara, but Colley stumbled upon a solitary tree (about five days' sail up the Demerara river) covered from head to foot with this Oncidium. He immediately set to work and stripped the tree, determined not to give any others the chance! . . . Anyhow, it retrieved the fortunes of my expedition, for when a large, healthy cargo was known to have arrived, everyone (save the fortunate holders of Mr. Lance's specimens) were prepared to go down on their knees for a bit, offering their greatest treasures in exchange. In this way (without any money passing) I became possessed of bits of all the then-known species which I cared to have. But for this unexpected find, my expedition would have been a total loss and bitter vexation. We did not then know that good Orchids are, as a rule, very rarely met with on the beautiful tidal tropical rivers, but must be sought on the nearest mountains, at an elevation of 3,000 to 6,000 feet."

In March, 1834, Mr. Bateman wrote to Mr. G. Ure Skinner, a merchant, trading with Guatemala, whom he had heard of through the specimens of birds and insects presented to the Natural History Museum, at Manchester. Mr. Skinner promptly responded, and in "less than ten years all the finest Orchids of Guatemala were in cultivation in British gardens, most of which flowered for the first time in Mr. Bateman's stove at Knypersley" (*Veitch Man. Orch.*, x., p. 131). "Never shall I forget my delight," said Mr. Bateman, in an address delivered before the Royal Horticultural Society, in February, 1867, "on opening the first box of Orchids he sent me, all carefully packed and in the best possible condition. Though gathered at random, every plant was new. Masses of Epidendrum Skinneri (the first to flower, and thence named after him), divers other Epidendra, Oncidium Cavendishianum, O. leucochilum, and Odontoglossum bictoniense, the first Odontoglot that ever reached England alive."

The effect of this stimulus is seen in Mr. Bateman's great work, *The Orchidaceæ of Mexico and Guatemala*, an elephant folio of forty plates, commenced in 1837 and completed six years later, of which only 125 copies were published. The plants are depicted life-size, and are accompanied by suitable descriptions and cultural hints, also "little scraps of gossip," as they have been described, "literary, scientific, archæological, or ethnological gossip, as the case may be, but, in any case, noteworthy for its elegance and piquancy of style, and for the singularly felicitous choice of classical quotations." The introductory portion is also unique in many respects, and the treatise on culture remarkable, considering the period at which it was written. The descriptions were accompanied with humorous

sketches and tailpieces, one of which, by George Cruikshank, represents the opening of a box supposed to contain Orchids, from which issue a pair of gigantic cockroaches, who had been fattening on the contents, and who now made off as fast as possible, in spite of the united efforts of the gardener's family and assistants, who tumble over each other in their frantic endeavours to deal death to the marauders with any tool or missile that came handy. Cruikshank also contributed a sketch depicting the reception of the book, in which pulleys and ropes were required to lift it, a not inappropriate illustration, seeing that it is probably the biggest botanical work ever published. The last plate represents what was one of the excitements in the Orchid world at the time, namely, the production of two totally different kinds of flower on the same plant of Cycnoches Egertonianum, which it is needless to mention further, having been given in detail in our second volume (pp. 233-236).

The volume of the *Botanical Magazine* for 1837 was dedicated to Mr. Bateman by Sir William Hooker, in the following words:—"To James Bateman, Esq., of Knypersley Hall, Cheshire, author of the magnificent *Orchidaceæ of Mexico and Guatemala*—a work of which it is hard to say whether the beauty of the subjects represented, the execution of the figures, or the taste and judgment displayed in the typographical department is most to be admired—the present volume is dedicated, with sentiments of high regard and esteem by his obedient friend and servant, W. J. Hooker."

Mr. Bateman contributed the descriptions of various Orchids to the work just mentioned, where they appear with the initials "*J.B.*"

In 1862 he commenced, in the *Gardener's Chronicle*, a remarkable series of twelve papers, under the title "Dies Orchidianæ," by Serapias. The last appeared in 1864, and it is needless to say that they are full of interesting matter.

About this period Mr. Bateman came to reside at Kensington, and took a great interest in the work of the Royal Horticultural Society, "in whose cause he has spared neither time, labour, nor expense. At the time of his removal from Staffordshire, he gave proof of his attachment to the Society by presenting it with a portion of his collection of Orchids, which forms one of the most attractive features in the western approach to the Society's garden" (*Gard. Chron.*, 1871, p. 1515). For some years he was in the habit of giving short "lecturets" at the Society's meetings, in which he succeeded in conveying "a great deal of valuable and interesting information in a pleasant gossiping style." In 1864 he also gave a Lecture on "Cool Orchid growing" before the Society (see *Gard. Chron.*, 1864, p. 483), and in the same year he published a small *Guide to Cool Orchid Growing*, containing an alphabetical list of genera and species. He also twice offered a Gold Medal, open to all comers, at home or abroad, to be awarded to the grower and

exhibitor who, in two successive years, should gain the highest number of marks. Mr. Veitch was the winner on the first occasion, and Mr. James Anderson on the second.

About this time Mr. Bateman commenced his *Monograph of Odontoglossum*, which was completed in 1874, and was dedicated to the Princess of Wales. It contains 30 beautiful plates, with an introductory essay, in which the early struggles of Cool Orchid growing is graphically depicted, the author describing how for years Orchid growers persisted in the "incredible folly of growing Cool Orchids in hot stoves," which resulted in their culture being regarded as hopeless.

Mr. Bateman had a strange antipathy to hybrids, and some of our readers doubtless remember his characteristic speech on the subject at the Orchid Conference at South Kensington in 1885, and how Mr. Veitch soon afterwards dedicated to him the beautiful Sophrocattleya × Batemaniana. This aversion he never entirely overcame, for almost on the last occasion when the writer had the pleasure of seeing him he, pointing to a beautiful Cypripedium venustum, remarked "the hybridists are spoiling these plants." When the present work was commenced he wrote, "I never had a more agreeable Xmas greeting than the announcement of the *Orchid Review*, which I heartily hope may flourish in your hands," but the "History of Orchid Hybridisation" proved a thorny subject to him, for a little over a year later he wrote "I am not interested in hybrids."

In 1885 he was awarded one of the Veitch Memorial Medals, and the presentation was made at the Royal Horticultural Society's meeting on June 11th by Sir Trevor Lawrence, who alluded to the recipient's work in eulogistic terms. Mr. Bateman was interested in other plants besides Orchids but these are outside our special province. He has been well described as "one of the most remarkable men in the horticultural world which the century has seen," and although he has not appeared much in public of late years he retained his interest in his favourites to the last.

WILLIAM GREY, gardener to the late Hon. Erastus Corning, of Albany, N.Y., U.S.A., passed away after a long illness of dropsy of the heart on November 25th last. Deceased was born in Greenlaw, Scotland, on February 12th, 1828. He went to America in 1851, and after holding several important positions engaged as superintendent to Mr. Corning, where he remained until his death, nearly forty years, surviving his employer less than three months. The Corning collection was at one time the finest in the United States, embracing 2,300 species and varieties and many fine hybrids, part of which were raised on the grounds.

AN IMPROVED ORCHID STAND.

In the November issue of the *Review*, page 339, you describe "An Improved Orchid Stand," which appears to be a very good device, and although I have not seen the stand myself, still I am confident that something of the kind you describe would be much better than the inverted pot which is so often used.

Amongst my plants there is a Cypripedium which had been placed with its pot upon another inverted pot and the latter placed upon a damp shelf and so left for a long time without being moved. One day when examining the plants on this shelf, it was found that the inverted pot was entirely filled with a light cobweb-like fungus, and further examination showed that the fungus had gone through the hole of the inverted pot, through that of the pot in which the plant grew, and had well filled up the drainge portion of the latter and attacked the roots of the plant.

A prompt shaking out of the pot and a thorough washing of the roots and leaves saved the plant, but it had been damaged somewhat, and took some time to recover.

Inasmuch as this was a fine Cypripedium insigne Chantinii, and the plant being now in flower, the value of such a stand as you describe was impressed upon me.

Chicago. F. J. Le Moyne.

MANURE FOR ORCHIDS.

The subject of Manure for Orchids has interested me for many years, and the results of my systematic and long continued practice of supplying ammonia to the atmosphere of all my Orchid-houses has brought about most beneficial and striking results, in the shape of beautiful green leaves, and the increased vigour of the plants.

Twice in each week a mixture of soot and lime, in a liquid form, is poured on the cinder-covered stages of the Orchid-houses, in quantity proportionate to the cubic capacity of each house, namely, one gallon to each thousand cubic feet. Over the cindered stages the Orchids stand on wooden lattices, and the ammonia vapour circulates among the leaves and roots of the plants and permeates the whole house, and causes a faint smell of ammonia to be perceptible. Care must be taken that too much of the soot and lime is not put down, or harm may be caused to the leaves of the plants. No damage can possibly happen if no more than one gallon of the liquid be used for each cubic feet of air space. The best time for putting down the ammonia liquid is in the evening, just after the stages and floors

have been damped, as it would be foolish to pour down the liquid and then wash it away, or dilute it by adding water to it. Care must also be taken to close all the ventilators to prevent the escape of the vapour.

It may perhaps be useful if I now give the proportionate quantities of the ingredients which produce the amoniacal liquid, and the method of preparing it. Eighteen gallons of water are placed in a tub, and to this quantity of water is added three gallons of soot and one gallon of fallen lime, and the mixture is then well stirred up and allowed to stand, covered with a cloth, until it is required for use, which is usually in about three or four days' time. When used the mixture is well stirred up, and no attempt is made to use the clear liquid only.

Before closing this letter I will give one instance, among very many, which proves the almost immediate effect of the ammoniacal vapour on the colouration of the leaves of Orchids. About September 30th of the present year I purchased a plant of Cypripedium Rothschildianum giganteum, and added it to my collection. When it arrived its leaves were of an unhealthy yellow colour, and the plant looked weakly and out of health, but after only eight weeks' treatment a most remarkable change has taken place, for the yellow colour has gradually disappeared, and its leaves have become a beautiful and healthy green, which colour will gradually grow darker and darker until it approaches the normal tint which a really healthy Orchid ought to have. In conclusion, I may explain that I now grow Cypripedes alone, but I have found this ammoniacal treatment just as efficacious with the other sections of the Orchid family.

Bridge Hall,
Bury.

O. O. WRIGLEY.

CALANTHE × HARRISII.

WE have received the eight-flowered inflorescence of the beautiful white Calanthe × Harrisii from the collection of J. T. Bennett-Poë, Esq., Holmewood, Cheshunt, to which a First-class Certificate was given by the Royal Horticultural Society, on December 14th last. It is a hybrid raised, we believe, by the late Dr. Harris, of Lamberhurst, Kent, from C. vestita Turneri ♀ and C. × Veitchii ♂, and thus may be considered as a white variety of C. × Sedenii. In shape it is fairly intermediate between the two parents, but the colour is white, with a faint trace of light yellow in the throat. It is a very beautiful thing, and the raceme has evidently not yet nearly reached its maximum development. Messrs. James Veitch and Sons have also one of the plants, which received an Award of Merit at the R. H. S. meeting on December 10th, 1895.

SPECIMEN ORCHIDS.

On several occasions we have given illustrations of specimen Orchids in our pages, and our readers will doubtless like to have a portrait of the beautiful plant of Cypripedium insigne Sanderæ from the collection of G. Shorland Ball, Esq., Ashford, Wilmslow, to which four different awards were recently given. It obtained both a First-class and a Cultural Certificate from the

Fig 1. Cypripedium insigne Sanderæ.

Manchester and North of England Orchid Society on November 4th, a Cultural Commendation from the Royal Horticultural Society on November 9th, and the Gold Medal of the Royal Botanical and Horticultural Society of Manchester on November 16th. The photograph, kindly sent by Mr. Ball,

was taken by Dr. Hodgkinson, The Grange, Wilmslow, and the accompanying illustration is an exact presentment in black and white, on a reduced scale, of the plant as it appeared at the meetings in question. It is not necessary to report the history of the variety, which was given at page 41 of our second volume, together with a portrait of a single flower, but it may be added that Mr. Ball's plant, which has been in his possession six years, is a subdivision of the original one. Several other yellow forms of Cypripedium insigne have since appeared among different importations, and have received varietal names, but whether all would prove distinct from each other if grown side by side is doubtful. None, however, so far as we know, has yet rivalled the original form.

It seems superfluous to add that it affords an excellent example of good culture, for its sturdy, robust habit shows the care which has been bestowed upon it, and both Mr. Ball and his gardener, Mr. Hay, must be congratulated on their success. It is pleasing to see the increasing attention paid to the production of specimen Orchids—not necessarily of gigantic proportions, but sturdy, well-grown examples, vigorous enough to show the variety at its best. Such plants are not built up in one season, and nothing affords a better test of the cultivator's skill. It has more than once been remarked that even insignificant Orchids become attractive if grown in masses, and we have seen evidence of this on numerous occasions.

ONCIDIUM TIGRINUM LUGENS.

A VERY distinct and striking variety of Oncidium tigrinum has flowered with Messrs. Charlesworth & Co., Heaton, Bradford, in which the sepals and petals are of a uniform tint of deep red-brown, inclining to black, the minute tips alone being yellow, and the dorsal keels green. It contrasts very effectively with the bright yellow lip, in a way, indeed, which is not seen in the typical form, and as it has all the good qualities of that in addition, it should be highly prized. It has appeared once before, in the collection of Dr. Duke, The Glen, Lewisham, in 1886, when it was described by Reichenbach (*Gard. Chron.*, 1886, xxvi., p. 553), but whether that plant is still in existence we cannot say. The other extreme of variation is seen in the variety albens (Rchb. f., l.c., 1876, vi., p. 772), "whose single decoration," according to Reichenbach, "is the anther, while all the other usually yellow parts are changed to a white colour, with a very light ochroleucous hue." It appeared in the collection of W. H. Michael, Esq., Cholmeley Park, Highgate.

R. A. R.

ZYGOPETALUM CROSSED WITH ODONTOGLOSSUM.

AT the Royal Horticultural Society's meeting on December 15th, 1896, Messrs. Heath & Son, of Cheltenham, exhibited "a hybrid seedling obtained by crossing Zygopetalum Mackayi with the pollen of Odontoglossum, which resembled the mother plant with the exception that the lip was slightly wavy and pure white, with some slight purple marks at the base and centre" (*supra*, v., p. 32). Plants have recently passed into the collection of W. Thompson, Esq., Walton Grange, Stone, and three spikes are now sent by Mr. Stevens. On examining these flowers, we fail to find any characters that can be clearly traced to the Odontoglossum parentage, but if all three have the same origin, it is quite clear that some modifying agency has been at work. One seedling is much like *Z.* intermedium (which, by the way, often does duty as *Z.* Mackayi in collections, and which in the present case we strongly suspect was the seed parent), but the other two are markedly different, having a narrower, wavy, white lip, with rows of elongated spots on the nerves, except at the margin. The first-named is strongly striped with purple right to the margin. We should like to see flowers from the actual plant which produced the seed, for there is something mysterious in this so-called hybrid, which has previously behaved in the same way with Messrs. Veitch, as has several times been mentioned in our pages. The presumption is that it is a case of hybridity where the Zygopetalum parent obtains such a preponderating influence as to almost obliterate all trace of the Odontoglossum. But if this is the case, the hybrid should be again crossed with the Odontoglossum, to see whether some of the Zygopetalum influence cannot be eliminated. This experiment would be well worth following up. Again, Zygopetalum has been used as the seed parent, but we would suggest that the cross should be reversed. If anything like a similar result could be obtained by making Odontoglossum the seed bearer, the evidence would be conclusive. A suggestion formerly made, that the pollen of the Odontoglossum might in some way stimulate the development of the ovules without fertilisation being effected, is rather disproved by the evidence now to hand, for this would be a case of parthenogenesis, or budding of the ovules, and it is known that plants obtained by vegetative reproduction do not vary. The decorative value of this useful old Orchid is too well known to require mention, but the interest attached to the solution of this curious problem is such that we hope to see further experiments carried out. The Zygopetalum might be crossed with several different genera, and the crosses reversed, when the result could not fail to be interesting.

THE EFFECT OF FOG ON ORCHIDS.

Fogs are usually more or less prevalent in low-lying districts during the winter months, and in the neighbourhood of London and some of our large manufacturing towns these are so heavily charged with smoke and deleterious gases as to do great damage to plant life. The present winter has been quite exceptional for the amount of fog—at all events in the London district—and recalls the disastrous winter of six years ago, when so much damage was done to all tender plants. Orchids, as is well known, are frequently much injured by the fog demon, but all are not equally affected in the same way, and some notes which have been taken on the subject will probably prove interesting to readers of the *Orchid Review*.

A bad spell of fog was experienced in October, when Cattleya labiata and Cypripedium insigne were in bloom, the bad effects of which were quickly visible, especially on the flowers, but the buds were also affected, and in a short time a brilliant display of bloom was completely destroyed. Phalænopsis Esmeralda, too, suffered in both buds and flowers, but the flowers only of Vanda Kimballiana and V. cœrulea were affected. The behaviour of the latter was curious, as the beautiful blue colour quickly became white, though the flowers afterwards remained fresh for nearly a fortnight.

The effect of three days of almost continuous yellow fog in December was even more disastrous, and the mischief was apparent on the second day. Both flowers and buds of Calanthe × Veitchii, Dendrobium Phalænopsis and bigibbum, Oncidium pubes and O. Krameri, Cynorchis Lowii, Lælia anceps and L. autumnalis, and Gongora tricolor, either shrivelled or turned yellow and dropped off. The following ten kinds were badly injured or destroyed in the bud state:—Phalænopsis amabilis, Stuartiana and tetraspis, Lycaste Skinneri, Odontoglossum pulchellum, Catasetum longifolium, macrocarpum, uncatum, and discolor, and Lælia peduncularis.

Those of which the flowers were chiefly affected include the following:—Angræcum sesquipedale, Sophronitis violacea, Oncidium crispum, Dendrobium Findlayanum and × chrysodiscus, Epidendrum Wallisii and ciliare, Masdevallia ignea, triangularis, and melanopus, Brassavola grandiflora and cucullata, Trichopilia sanguinolenta, and Cirrhopetalum ornatissimum.

After this catalogue of disasters it will be interesting to note the kinds which were not visibly affected by the fog. These included Odontoglossum crispum, Rossii, maculatum, and Krameri, Dendrobium bractescens, moniliforme, Mooreanum, and × Cassiope, Oncidium pulvinatum and O. unguiculatum, Sophronitis grandiflora, Zygopetalum intermedium and ×

Clayi, Phalænopsis denticulata, Cypripedium concolor, virens, × Sallieri, × Swanianum, and × Fitchianum, Platyclinis uncata and cucumerina, Angræcum pellucidum, and Eulophia virens.

It is curious to note that while Sophronitis violacea and Angræcum sesquipedale were destroyed, their respective allies Sophronitis grandiflora and Angræcum pellucidum were not perceptibly injured, and the same thing may be seen in the genera Dendrobium, Oncidium, Phalænopsis, and Odontoglossum. Differences in the texture of the flowers may partly account for this, but this is not all the reason, as a comparison of the flowers will show.

As regards treatment during these fogs it should be noted that precautions were taken to prevent the fog from entering the houses by keeping the ventilators perfectly closed and only using the doors which do not open directly into the open air, so that the fog could only gain an entrance between the laps of the glass. The atmosphere was also kept rather on the dry side, but in spite of all this the effects were disastrous, and, apart from the flowers, the effect on the plants themselves, though not so obvious, must have been considerable. Remedial treatment seems of little avail during a bad spell of London fog, though all possible precautions should be taken in the interests of the plants. It is heart-rending to witness such wholesale destruction, and we have heard it remarked that it is useless to grow Calanthes and some other winter-blooming Orchids within the fog area.

CALENDAR OF OPERATIONS FOR JANUARY.

ALTHOUGH still in the middle of the winter season, the gradually lengthening days, and the signs of renewed activity, will soon remind us that a new year has commenced for our favourites, and urge us to lose no time in making all necessary preparations for the busy season which will soon be upon us. If the supply of potting materials, or of receptacles in which the plants are grown, is at all low, fresh supplies should be got in, so that potting operations can be attended to in earnest when the proper season arrives. A little foresight at this period will prevent many vexatious delays hereafter, and nothing is more detrimental to the well-being of the plants than operations of this kind being delayed beyond the proper season.

The winter treatment must still be continued, so far as temperatures and watering are concerned, but advantage should be taken of any spell of mild weather to increase the amount of ventilation, and during sunshine let the temperature rise a few degrees above that of dull days when fire-heat alone has to be relied on. The following temperatures should be maintained as nearly as circumstances will permit :—

COOL HOUSE.—Day, 50° to 55°, with sun, 60°; night, 50°; morning, 45° to 50°.

INTERMEDIATE HOUSE.—Day, 58° to 63°, with sun, 66°; night, 56° to 58°; morning, 53° to 56°.

CATTLEYA AND MEXICAN HOUSE.—Day, 60° to 65°, with sun, 68°; night, 58° to 60°; morning, 55° to 58°.

EAST-INDIAN HOUSE.—Day, 65° to 70°, with sun, 75°; night, 65°; morning, 60° to 65°.

These figures should be maintained as nearly as possible, but due regard should be taken of the fluctuations of the temperature outside. If the weather be cold do not attempt to reach the higher temperatures by excessive firing, which would do more harm than allowing them to recede a degree or two, and during a spell of severe weather the fire-heat may be economised by letting the blinds down at night, or laying mats or other coverings on the glass. These, however, should be removed in the day time, as it is important that the plants should receive all the light possible at this dull season.

Ventilate as freely as possible during mild weather, but chiefly by means of the bottom ventilators, for a stagnant atmosphere is detrimental to the health of the plants. Do not let the atmosphere become dry, but damp the paths and walls once or twice a day, according to the amount of fire-heat used. Watering operations must still be carried on with caution, and much the same as last month. Keep a sharp look-out for insects, for cleanliness is of the highest importance, and a little extra attention in this direction will save much labour hereafter when time is more valuable. A sharp watch should be kept for slugs, and if signs of them are apparent some lettuce or cabbage leaves should be laid down and examined carefully every morning. A little cotton-wool placed round the base of a flower spike will often preserve it from these marauders. Cockroaches, too, should be kept down at all costs, for it is useless to attempt to grow Orchids in a house infested with these pests, which devour young roots, flower spikes, and almost anything else without mercy.

In the Cool house many things are at rest; the principal work will be to give due attention to watering and keeping the atmosphere in a healthy condition. Those plants which are commencing to grow should be kept rather moister than before, and any that are making active growth, such as Ada aurantica, will benefit by rather more liberal treatment. A few Odontoglossums are now in bloom, and may be kept slightly drier than those beginning to grow. Masdevallias must be very carefully watered. A few kinds are in bloom, of which the beautiful M. tovarensis is the best, and its pure white flowers are invaluable at this season.

In the Intermediate house will be found various Cypripediums, and

those of the winter-blooming kinds which are passing out of flower may be looked over to see if they require repotting, which operation may be safely taken in hand soon after the flowers are cut. The best time for this, as for nearly all Orchids, is just when they begin to grow, as the new roots then immediately take possession of the compost. The pots should be well drained, and extra care should be taken in watering for a time, though they must not be allowed to remain dry for long. Lycastes should be kept rather dry at present, with the exception of those throwing up their flowers, as L. Skinneri. Several of them will repay any attention bestowed on them, as they are very effective when grown well. Miltonia vexillaria is in a state of active growth, and should be well looked after, as upon this its successful flowering hereafter depends. A damp, ill-ventilated atmosphere and fluctuations of temperature should be guarded against, and care should be taken not to over-water the plants. Keep a sharp look out for thrips, which soon work much mischief, and if their presence is detected give a slight fumigation with Richards' XL.All. Odontoglossum citrosmum should be kept very dry until the flower spikes begin to show themselves, when a good watering may be given. Other occupants of this house must be treated in accordance with their condition, growing or resting, the former requiring rather more water than the latter. No attempt should be made to hurry on those which are resting, for a period of rest and recuperation is beneficial, and they will start with increased vigour when their proper season arrives.

Most of the occupants of the Cattleya house are at rest, and should be very sparingly watered, but a few are either growing or pushing up their flower spikes, and should be placed in the warmest and lightest positions in the house, and receive slightly more water. Among those now growing are Cattleya Warneri and intermedia, together with Lælia crispa and purpurata, while Cattleya Trianæ and Percivaliana are maturing their buds. Lælia anceps and any others in bloom should be kept moderately dry, which helps to preserve their flowers. Cœlogyne cristata thrives well at the cool end of this house, and will soon be producing its charming flowers. Care should be taken not to wet them, as they are very liable to become spotty if this is not guarded against. It is one of the most beautiful Orchids we have.

In the East Indian house there is more to be done, for many things are showing renewed activity. The Dendrobiums are now in every stage of flower-production, some being already out and others rapidly pushing on their buds. Do not attempt to force them on, or the flowers will be deficient in quality. A succession may be ensured by bringing them on in batches. If early flowers are required some of

the plants should be encouraged to grow and rest early. The supplies of water should be slightly increased as the buds begin to push. D. Phalænopsis being over should receive a good rest before growth recommences. Species of Aërides, Saccolabium, and allied genera which require top-dressing with sphagnum moss may now receive attention, commencing with those which are beginning to grow. Care must be used in watering for some time to come, and the majority should be kept on the dry side for the present. Due attention should be given to keeping the atmosphere in a healthy condition by properly regulating the temperatures and the amount of ventilation and damping down. And, generally, one should strive to have everything in as forward a condition as possible, so that when the season of active growth arrives we may be able to utilise it to the fullest extent.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

THE meeting of this Society on November 25th was again a very good one, and no less than fifty-three plants were separately brought before the Committee for adjudication. Most of these plants showed considerable merit, and three succeeded in obtaining First-Class Certificates.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), showed Cypripedium × Minos, C. insigne Dorothy, and Cattleya × Victoria-Regina, all of which obtained Awards of Merit, also a cut bloom of Cypripedium insigne Sanderæ.

Samuel Gratrix, Esq., West Point, Whalley Range (gr. Mr. McLeod), showed Lycaste Skinneri Mr. F. L. Ames, Cypripedium × Allanianum, C. × Ceres, and C. × nitens superbum, all of which obtained Awards of Merit; also C. insigne Sanderianum and Odontoglossum × Gratrixianum (Hallii × elegans), both of which received First-class Certificates.

W. A. Gent, Esq., Brooklands, showed Angræcum sesquipedale, for which he was awarded a Cultural Certificate.

A. Warburton, Esq., Vine House, Haslingden (gr. Mr. Lofthouse), showed a hybrid Cypripedium derived from C. superbiens × niveum, in reality a form of C. × Georgeanum. The flower is in form and colouring quite what one would expect from the parentage, and is one of the best niveum crosses we have seen. It was awarded a First-Class Certificate.

Thomas Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), showed Cypripedium × Minos, C. × Leeanum giganteum, C. insigne superbum, C. × nitens Lucianianum, and Cattleya labiata picta, all of which received

Awards of Merit. Cypripedium × Swinburnei and Cattleya labiata Eugenie were also exhibited.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), showed Cypripedium insigne Dorothy and C. × Leeanum giganteum, both of which obtained Awards of Merit. He also sent C. × Niobe magnificum and a very effective group of C. insigne, with examples of most of the types.

J. Leemann, Esq., West Bank House, Heaton Mersey (gr. Mr. Edge), showed a very pretty form of Cypripedium insigne (Award of Merit), a fine well flowered plant of C.i. punctatum-violaceum (Award of Merit), C. × Ashburtonæ (Award of Merit), C. × A. expansum, C. × gigas, C. × Leeanum, and Cattleya labiata Rose Leemann.

Edwin Stanley Clark, Esq., Oak Alyn, Wrexham (gr. Mr. Edwards), showed Cypripedium insigne Cecilia, C. i. Stuartiana, and other Cypripediums; also Odontoglossum Rossii majus, which latter obtained a Cultural Certificate.

Messrs. Charlesworth & Co., Heaton, Bradford, showed Cypripedium × Pollettianum (A. M.), C. × Ceres (A. M.), C. × tessellatum porphyreum, a form of C. × Godseffianum called Jupiter, Miltonia Warscewiczii, and Oncidium cheirophorum.

Messrs. Linden & Co., Brussels, showed Cypripedium × Beckmanii, a distinct and beautiful hybrid stated to be a cross between C. Boxallii superbum and C. bellatulum. It however shows very little trace of the pollen parent. The flower was not quite expanded and it was therefore impossible to tell whether the dorsal sepal would keep flat or reflex after the habit of Boxallii. The petals are very broad, especially towards the extremities, and are of a very dark purple colour, shading to a lighter tint at the base. It received an Award of Merit. The same firm also showed C insigne Luciani, which also obtained an Award of Merit.

Mr. James Anderson, Wallace Avenue, showed Oncidium Forbesii splendidissimum (Award of Merit), Dendrobium × euosmum roseum, Cypripedium × Arthurianum and C. × Leeanum.

Mr. John Robson, Altrincham, staged a very good group of Orchids and was awarded a Silver Medal.

The last meeting of the year was held on December 16th, 1897, at the Manchester Coal Exchange, when there was quite a large gathering of Orchidists, and the meeting was in every way most successful. Fifteen members of the Committee were present, and fifty-two plants were submitted, in addition to groups. Five First-class Certificates, sixteen Awards of Merit, and two Cultural Certificates were awarded.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), showed a magnificent plant of Lælia Gouldiana with some fifty of its beautiful flowers fully expanded. It was awarded both a First-class and a Cultural

Certificate. He also showed Lælia autumnalis alba, but the flowers were much smaller than we have seen in this variety, and it obtained an Award of Merit only.

G. Shorland Ball, Esq., Ashford, Wilmslow (gr. Mr. Hay), showed a very fine plant of Cypripedium insigne Sanderæ with three flowers expanded, and a good plant of C. i. Sanderianum, both of which received First-class Certificates. The same exhibitor also showed a very beautiful seedling, called C. × Mrs. Maynard, derived from C. × nitens magnificum crossed with C. × Leeanum. The dorsal sepal is of about the size and form of C. × Leeanum giganteum with emerald green radiations for nearly half-an-inch from the base, the rest pure white with dark maroon spots. The pouch and petals are very similar to C. × nitens. With these exhibits were also a dozen cut blooms of the best forms of C. insigne, including Sanderæ, Sanderianum, aureum, punctato-violaceum, Chantinii superbum, albens, giganteum, Balliæ, and Ernestii. These were arranged amongst the fronds of a maidenhair fern, and looked very effective.

John Leemann, Esq., West Bank House, Heaton Mersey (gr. Mr. Edge), showed Cattleya Trianæ Fleur de Paradis (Award of Merit), C. labiata, C. Trianæ albens, Cypripedium × Lathamianum, C. × Pitcherianum, C. × nitens, C. hirsutissimum, Oncidium tigrinum, and Dendrobium superbum.

G. W. Law-Schofield, Esq., New Hall Hey, Rawtenstall (gr. Mr. Shill), showed Cypripedium × Cravenianum, a very pretty seedling with bellatulum as one of the parents, which received a First-class Certificate. The same exhibitor also showed C. × Leeanum giganteum (Award of Merit), and a good cut bloom of C. insigne called Harefield Hall variety, but we must confess we fail to see any difference between this and the Uplands variety.

E. J. Sidebotham. Esq., Erlesdene, Bowdon (gr. Mr. Shiner), staged Sophronitis grandiflora, excellent in colour, but we have seen larger flowers (Award of Merit).

Henry Greenwood, Esq., Highfield, Haslingden (gr. Mr. Spurr), showed a very pretty seedling Cypripedium × Antigone (niveum × Lawrenceanum), which received an Award of Merit, but the plant appears to be blooming for the first time, and the flower was not at its best. He also showed Dendrobium × Kenneth (Maccarthiae × Bensonæ), which received an Award of Merit, and Lælia albida.

Thomas Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), showed Cypripedium × Statterianum (Award of Merit), C. insigne Johnsonianum, somewhat after the style of Sanderianum but exhibiting the slightest indications of spotting at the base of the dorsal sepal, and also in the white margin at the top (Award of Merit), C. × Leeanum, Stand Hall variety (Award of Merit), C. × Ariadne and C. insigne marmoratum.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), showed Cypripedium insigne Uplands variety (First-class Certificate), C. × Leeanum perfectum and C. × Crossianum superbum.

H. Worthington, Esq., Abbey Lawn, Whalley Range (gr. Mr. Went), showed Lælia anceps alba, to which an Award ot Merit was given. This is a pure white form of this beautiful species, but the flowers are rather wanting in size.

W. H. Almond, Esq., Blackburn, showed a very well-grown specimen of Oncidium tigrinum, to which a Cultural Certificate was awarded.

W. A. Gent, Esq., Brooklands, showed Cypripedium × Lathamianum.

W. Bolton, Esq., Wilderspool (gr. Mr. Cain), showed Cattleya labiata, C. Gaskelliana, C. Trianæ albens, Lælio-cattleya × Aurora, and Odontoglossum Pescatorei.

Messrs. F. Sander & Co., St, Albans, showed a very fine plant of Odontoglossum × cuspidatum magnificum with an immense spike of flowers. It received an Award of Merit, but we think no one could have complained if it had received higher honours. They also showed Lælio-cattleya × Gottoiana (Award of Merit), Odontoglossum crispum Pink Beauty (Award of Merit), and O. × Wattianum.

Messrs. Hugh Low & Co., Upper Clapton, showed Cypripedium × Minos magnificum.

Mr. John Robson, Altrincham, showed Cypripedium × Leeanum splendens, and C. × Leeanum giganteum (Award of Merit). This exhibitor also staged a very fine group of miscellaneous Orchids, which received a Vote of Thanks.

Mr. James Cypher, Cheltenham, showed Lælia tenebrosa Thompsoni, which obtained an Award of Merit.

Mr. William Owen, Hartford and Greenbank Nurseries, Northwich, staged a good group of Cypripedium insigne, in which most of the ordinary motanum forms were represented. A Vote of Thanks was awarded.

ONCIDIUM VARICOSUM VAR. INSIGNE.

A VERY striking Oncidium has recently appeared in several collections, with much of the general character of the old O. varicosum, but differing in having a very large deep red-brown irregular blotch surrounding the crest. The small sepals and petals are also of a still darker shade, imparting to the flower quite a distinctive aspect, in spite of the general agreement in shape and other details. I have seen flowers successively from the Royal Botanic Garden, Glasnevin, the collection of H. Druce, Esq., St. John's

Wood, and from Mr. Wm. Brooks, Whitecross Nurseries, Weston-super-Mare, all of which agree in the characters above-named, so that it is evidently not a mere casual variation, and deserves a distinguishing name as above proposed.

R. A. ROLFE.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THE display of Orchids at the Drill Hall, James Street, Westminster, on November 23rd, was again a very good one, and included several interesting novelties.

The Right Hon. Joseph Chamberlain, M.P., Highbury, Birmingham (gr. Mr. Smith), sent a small group of fine things, to which a Silver Banksian Medal was given. It included a well-grown example of Lælio-cattleya × Clive, L.-c. × Gottoiana, L.-c. × albanensis, L.-c. × Vedastii var. corbeillensis, a form of L.-c. × Tiresias called Ophelia, and Cattleya × Miss Williams.

Baron Sir Henry Schröder, The Dell, Egham (gr. Mr. Ballantine), received an Award of Merit for Odontoglossum Dayanum, a species allied to O. præstans, having cream-white flowers spotted with cinnamon-brown, and said to have been named by Reichenbach.

W. P. Burkinshaw, Esq., West Hill, Hessle, near Hull (gr. Mr. Baker), received an Award of Merit for Cattleya labiata White Queen, a beautiful white variety with a faint trace of pink on the lip.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), showed Cypripedium × Saron (C. niveum × (?) venustum Measuresianum), a hybrid with white flowers tinged with emerald green and densely spotted with purple, and the rare Cirrhopetalum refractum, in which the flowers are borne in a raceme. A Botanical Certificate was awarded to the latter.

The Hon. P. Allsopp, Battenhall Mount, Worcester (gr. Mr. Fox), sent a good plant of a peculiar form of Cypripedium insigne, in which the spots of the dorsal sepal were absent.

Philip Crowley, Esq., Waddon House, Croydon (gr. Mr. Harris), showed a good Cattleya labiata and C. l. rosea, the latter with brilliantly-coloured flowers.

W. H. Lumsden, Esq., Balmedie, Aberdeen (gr. Mr. Roberts), sent some good forms of Cypripedium insigne, including one with clear yellow flowers.

Captain Holford, Westonbirt, Tetbury (gr. Mr. Chapman), sent cut

flowers, including Cypripedium × Leeanum, C. insigne, Zygopetalum crinitum, and Odontoglossum × Andersonianum.

Mr. W. B. Latham, Botanical Gardens, Edgbaston, Birmingham, exhibited Cypripedium × Deedmanianum (C. Spicerianum ♀ × Chamberlainianum, an interesting hybrid, having the dorsal sepal white with a green base, a purple median line, and some purple spots on either side; the petals yellow tinged with purple, and the lip purplish with a yellow margin.

Messrs. James Veitch and Sons, Chelsea, exhibited a choice group, to which a Silver Flora Medal was awarded. It contained the beautiful Lælio-cattleya × Statteriana, L.-c. × Pallas, L.-c. × Decia, L.-c. Tiresias, L.-c. × Semiramis, Cattleya × Mantinii, Zygopetalum Mackayi, Epidendrum Wallisii, Cypripedium × Alonzo (C. Spicerianum × C. × Arthurianum pulchellum), a pretty thing somewhat resembling C. Leeanum, but more marked with purple on the dorsal sepal, C. × Actens, fine forms of C. × Leeanum, including C. × L. Prospero, C. × Euryades, C. × Roberti, C. × Pheres, C. × Io grande, C. × Niobe, &c. The two following hybrids each received Awards of Merit:—Cattleya × Empress Frederick var. Leonata (Mossiæ ♀ × Dowiana ♂), a beautiful form, with rose-coloured sepals and petals, not white as in the original, and Lælia × Olivia (crispa ♀ × xanthina ♂), a pretty light yellow flower, with the front of the lip light rose and somewhat veined, and a tinge of the same colour on the petals.

Messrs. Hugh Low and Co., Upper Clapton, also received a Silver Flora Medal for a very effective group, containing a number of good Cattleya labiata, with Vanda cœrulea in the centre, and good examples of Cypripedium × Leeanum, C. × œnanthum superbum, C. × enfieldense, C. × Sallieri Hyeanum, C. × conco-Lawre, C. Prewettii, a lilac-coloured form of Cattleya Bowringiana, Odontoglossum crispum, Oncidium Forbesii, and O. prætextum.

Messrs. F. Sander and Co., St. Albans, staged a group of choice Orchids, to which a Silver Banksian Medal was awarded. It contained the beautiful Dendrobium Johnsoniæ, Habenaria carnea, the rare Chondrorhyncha Chestertoni, Phaius × Ashworthianus, Calanthe × Florence and C. × bella, Cymbidium × Winnianum, Phaio-calanthe × Arnoldiæ, Cypripedium × Leeanum, and others. A Botanical Certificate was given to Maxillaria elegantula, Rolfe, a pretty species allied to M. grandiflora, having white flowers tinged with yellow towards the apex of the sepals and petals, and spotted with chocolate.

Messrs. Linden, L'Horticulture Internationale, sent a yellow form of Cypripedium insigne called C. insigne Luciani, and C. × Beckmanii, a fine hybrid, said to have been derived from C. Boxallii superbum crossed with bellatulum, though the latter parent was doubted by the Committee. It received an Award of Merit.

At the meeting held on December 14th, the last of the year, Orchids were unusually numerous for the season, and came from twenty-two different exhibitors.

The group staged by Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), was a particularly rich one, and received a Silver-gilt Flora Medal, besides eight special awards to individual plants. Calanthe × burfordiensis, C. × sanguinaria, and C. × Veitchii splendens each secured an Award of Merit, as also did an interesting hybrid between Brasso-cattleya × Lindleyana ♀ and Lælio-cattleya × elegans ♂, called Brasso-catlælia × Lindleyano-elegans. The sepals and petals are blush white and the lip purple. Masdevallia corniculata and Cirrhopetalum Medusæ each received a Botanical Certificate, and the latter, together with Dendrobium cymbidioides, received Cultural Commendations, being fine specimens with numerous inflorescences. Among the other plants were numerous beautiful Calanthes, as C. × amabilis with pale rose-coloured flowers, C. × Veitchii lactea, a fine white, C. × porphyrea, C. × Wylamiana, C. × Bryan, white with dark purple eye, C. × versicolor, white with soft pink eye; also Masdevallia irrorata and M. Schrœderiana, a fine specimen of Platyclinis uncata, Miltonia Russelliana and M. Endresii, Cypripedium × Lawrebel, C. × callo-bellum, C. × conco-bellum, C. × Leeanum giganteum, &c.

J. T. Bennett-Pöe, Esq., Holmewood, Cheshunt (gr. Mr. Downes), received a First-Class Certificate for the beautiful white Calanthe × Harrisii.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), received an Award of Merit for Lælia anceps Mrs. de B. Crawshay, a large and richly-coloured variety.

R. C. Rickards, Esq., The Priory, Usk, received an Award of Merit for Lælia pumila superba, one of the largest and best forms of the species.

W. C. Walker, Esq., Percy Lodge, Winchmore Hill (gr. Mr. Cragg), exhibited Odontoglossum cirrhosum with foliaceous bracts, a fine form of Lælia albida, and Lælia rubescens, the latter receiving an Award of Merit.

Sir F. Wigan, Clare Lawn, East Sheen (gr. Mr. Young), sent the pure white Maxillaria grandiflora alba, a fine form of Cypripedium insigne with very large spots, and the handsome Trichopilia brevis, an Award of Merit being given to the latter.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, sent Maxillaria mirabilis, M. punctata and an unspotted variety of the same, a fine yellow form of Cypripedium insigne, Vanda lamellata Boxallii, and Oncidium saltabundum, the latter receiving a Botanical Certificate.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), sent Cypripedium × J. Howes (C. × Sallieri Hyeanum × villosum aureum), a very handsome hybrid.

Malcolm S. Cooke, Esq., Kingston Hill (gr. Mr. Buckell), sent two good forms of Oncidium Forbesii.

H. Druce, Esq., The Beeches, Circus Road, St. John's Wood (gr. Mr. Walker), sent a remarkable form of Oncidium varicosum, with a large amount of red-brown at the base of the lip.

T. Duck, Esq., Abbey Wood, Kent, showed Cyperorchis Mastersii alba with flowers entirely white.

Admiral Sir Henry Fairfax, Ravenswood, Melrose, sent a fine form of Lælia anceps.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), showed the handsome Lælia anceps Schrœderæ.

T. McMeekin, Esq., Falkland Park, Norwood (gr. Mr. Wright), showed a fine form of Cypripedium insigne, and C. × Mrs. Geo. Bollerill, a fine hybrid between C. × Lathamianum ♀ and C. × Savageanum superbum ♂.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), showed the handsome Lælia anceps Chamberlainiana.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), sent the handsome Cattleya × Miranda.

Messrs. James Veitch and Sons, Chelsea, staged a choice group of hybrids to which a Silver Flora Medal was given. It contained the handsome Lælia-cattleya × Eunomia, three fine forms of L.-c. × Pallas, L.-c. × Loucusta (C. bicolor ♀ × L. harpophylla ♂) a striking thing with yellow sepals and petals, and a purple lip with cream-white side lobes, Cattleya × Mantinii, Selenipedium × Sedeni candidulum, Cypripedium × Niobe, C. × Euryades, C. × Œnone, C. × Minos magnificum, and C. × Æson giganteum, the latter receiving an Award of Merit.

Messrs. Hugh Low and Co., Upper Clapton, received a Silver Banksian Medal for a fine group, including Angræcum sesquipedale, Cynorchis Lowii, Lycaste Skinneri armeniaca, Lælia anceps, Cymbidium × Winnianum, Oncidium anthocrene, Dendrobium × Cassiope, D. × Leechianum, Cattleya Percivaliana, Cypripedium insigne Laura Kimball, the handsome C. × Leeanum Low's variety, the beautiful C. × Minos magnificum, C. × Bellona, C. × Sallieri Hyeanum, &c.

Mr. James Douglas, Edenside, Great Bookham, received an Award of Merit for Lælia × Briseis (harpophylla × purpurata), a pretty hybrid having white sepals and petals tinged with lemon yellow, and a white lip with some rosy markings on the front lobe of the lip.

Messrs. F. Sander and Co., St. Albans, sent Phaio-calanthe × Arnoldiæ superba, and some good hybrid Calanthes, including C. × bella, C. × Florence, C. × Bryan, and C. × Victoria-Regina, &c., forming a very pretty group.

Messrs. Paul and Son, The Old Nurseries, Cheshunt, showed ten baskets of healthy Cypripediums grown in a house where the temperature often falls to 40° Fahr. in winter. They included C. Spicerianum, C. × Ashburtoniæ, C. × Harrisianum, and various good forms of C. insigne. A Vote of Thanks was accorded.

Messrs. B. S. Williams and Son, Upper Holloway, also sent a good group, including Zygopetalum intermedium, some good examples of Odontoglossum polyxanthum, Oncidium tigrinum and O. varicosum, Calanthe × Oweniana, having carmine-rose flowers with some cream-coloured markings, C. × bella, C. × Veitchii alba, Cypripedium × calophyllum, C. Leeanum superbum, C. × nitens superbum, C. × Sallieri, a series of C. insigne varieties, C. × Harrisianum, &c.

ORCHID PORTRAITS.

CATTLEYA × EMPRESS FREDERICK VAR. LEONATA.—*Gard. Chron.*, Dec. 18, pp. 428, 429, fig. 127.

DENDROBIUM CŒLOGYNE, Rchb. f.—*Gard. Chron.*, Nov. 27, pp. 386, 387, fig. 114.

HABENARIA RHODOCHEILA, Hance.—*Bot. Mag.*, t. 7571 (7570 on plate, by error).

LÆLIO-CATTLEYA × CLIVE.—*Gard. Chron.*, Dec. 18, pp. 426, 427, fig. 126.

MAXILLARIA ELEGANTULA, Rolfe.—*Gard. Chron.*, Dec. 11, p. 420, fig. 125.

ODONTOGLOSSUM RETUSUM, Lindl.—*Bot. Mag.*, t. 7569.

VANDA SANDERIANA.—*Journ. of Hort.*, Dec. 2, p. 535, fig. 79.

CORRESPONDENCE, &c.

G. B., Hamburg. 1 and 2, believed to be forms of Odontoglossum astranthum, Rchb. f. 3, Oncidium unquiculatum. 4, Dendrobium speciosum. Without number Saccolabium giganteum.

H. W. A remedy for these pests will be found in the present issue. Perseverance is necessary.

D. M. G. Odontoglossum Rossii occasionally produces these deformed flowers, sometimes possibly the result of weakness.

A. W. This and several other communications are unavoidably delayed.

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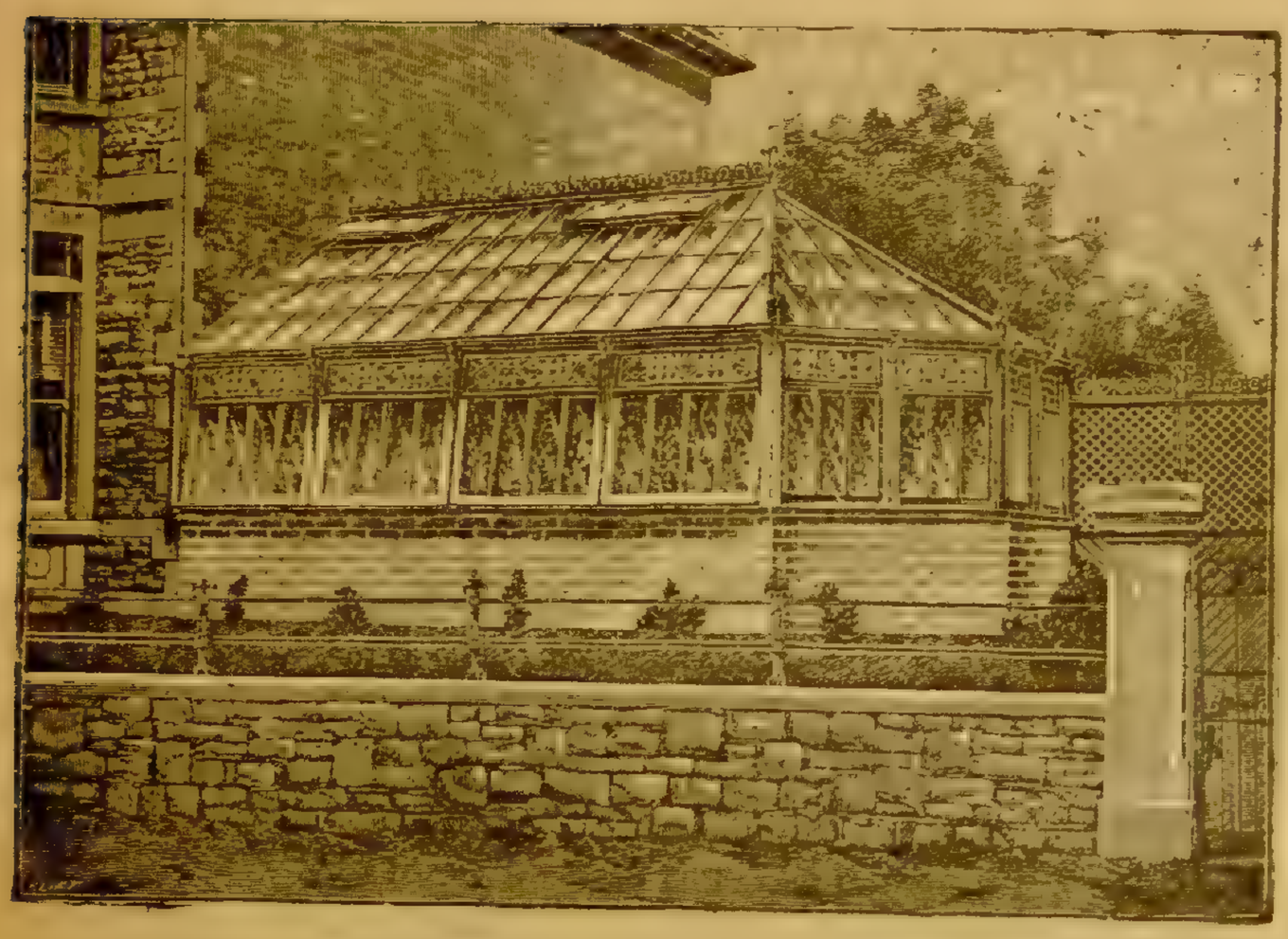

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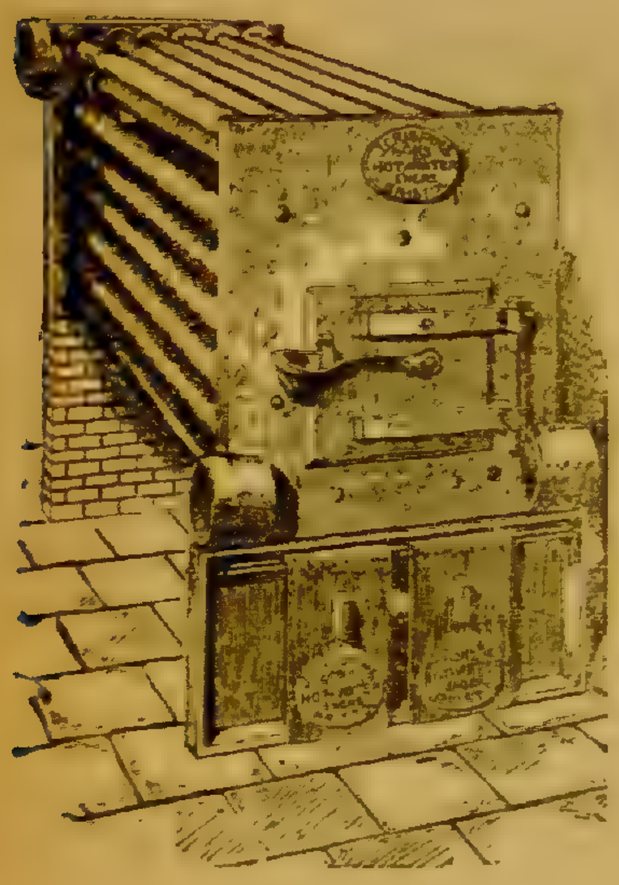

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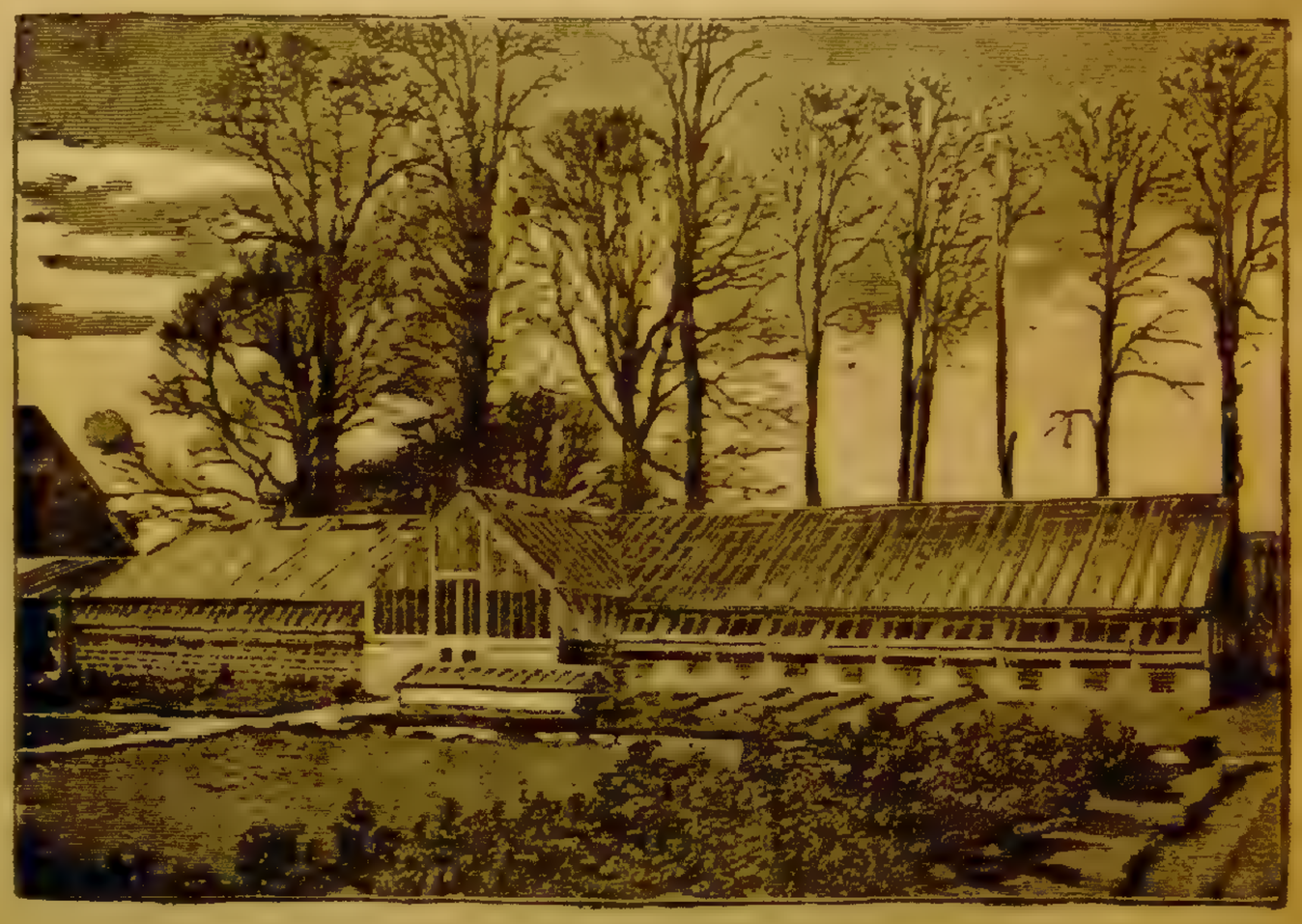

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

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NOTES.

THE next meeting of the Royal Horticultural Society will be held at the Drill Hall, James' Street, Westminster, on February 8th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

Two of the afternoon lectures during the year are to be devoted to Orchids—June 14th and September 6th. The subject on the former occasion is "Hybrid Orchids," by Mr. James O'Brien, V.M.S., and on the latter "The Disa," by Mr. T. W. Burkinshaw.

The next meeting of the Manchester and North of England Orchid Society will be held on February 10th, at the Coal Exchange, Manchester. The Orchid Committee meets at noon, and the exhibits are open to inspection an hour later.

We have received a very large and handsome flower of Cattleya Trianæ from the collection of F. G. Scott, Esq., Preston, North Shields. It is perfect in shape, with the sepals and petals rosy lilac in colour, the latter being over $2\frac{3}{4}$ inches broad, and the front of the lip rich amethyst-purple, beautifully undulate, and with the usual deep yellow markings in the throat. We believe that it may be referred to the variety magnifica. A complete list of varieties was given at pp. 114-119 of our third volume.

A most beautiful variety of Cattleya Percivaliana has been sent from the collection of R. le Doux, Esq., Marlfield, West Derby, Liverpool. The sepals and petals are light rosy mauve in colour, and more reflexed than usual. The petals are slightly over two inches broad. The lip is broad and open, with the front lobe of the richest crimson, inclining to rich brown where it joins the deep orange of the disc, and broadly bordered with white at the beautifully undulate margin: and the side lobes deep yellow veined

with crimson, and also bordered with white. The whole margin of the lip is more reflexed than usual, and this, together with the very spreading petals, gives the flower an unusually flat appearance. It is cultivated under the name of "Antoinette le Doux."

Cypripedium × Leeanum Clinkaberryanum is a very large and handsome variety, of which a flower has been sent by Mr. H. T. Clinkaberry, gr. to C. G. Roebling, Esq., Trenton, New Jersey, and is said to be an improvement on C. × L. giganteum in shape, size, and colour. Unfortunately, the flower was partly faded on arrival, but it has decidedly improved since it was briefly described at page 99 of our third volume, for the dorsal sepal is now nearly 3 inches broad, and the petals nearly an inch across.

GERMINATION OF PAPHIOPEDIUM SEED.

On pages 6 and 7 of your last issue is an article on Paphiopedium seed, and the length of time some of it takes to germinate. I can give you one other instance where seed took over two years in germinating, namely P. Curtisii crossed with the pollen of P. Chamberlainianum. The seeds were sown on April 5th, 1895, and after being sown eighteen months, one seed only germinated. Seven months later some nine or ten more seedlings germinated, and three months later still about twelve more appeared. From that time to the present seeds have kept on germinating, making in all about thirty seedlings. I may mention another case, that of P. × marmorophyllum crossed with the pollen of P. Stonei, which also took over two years in germinating, but not with such good results.

Edward C. H. Pidsley.

ORCHIDS OF 1897.

The Orchids of the past year once more demonstrate that it is to the hybridist rather than to the collector that we must look for the production of sterling novelties for our collections. It is quite probable that other showy species remain to be discovered, as well as numerous forms of botanical interest, but the unexplored parts of the globe are now becoming so circumscribed as to warrant the belief that the great harvest of showy things has been gathered. The principal novelty of 1897 was the violet-purple Dendrobium Victoria-Regina, introduced from the Phillippines by M. Loher, besides which Lueddemannia Sanderiana, Maxillaria elegantula, and one or two others were described from Messrs. F. Sander & Co.'s establishment, and Mormodes badium and var. luteum flowered in the

collection of the Hon. Walter Rothschild. A few others which appeared are chiefly of botanical interest.

Of course new varieties of well-known old species are constantly appearing, and among the most remarkable of these must be mentioned the pure white Dendrobium nobile virginale which appeared in the establishment of Mr. Thomas Rochford, and was described and figured at page 145 of our last volume. Maxillaria grandiflora alba is an albino from the collection of Sir Frederick Wigan. Several additional varieties of the most popular species of Cattleya, Odontoglossum crispum, and others appeared, but how far all are distinct from previously named ones could only be ascertained on comparison. Some are certainly individuals rather than varieties.

Additions are gradually being made to the ranks of the natural hybrids, and among those of last year must be mentioned the remarkable Vanda × Moorei, which appeared with Mr. J. W. Moore, of Bradford, V. × amœna, with Messrs. Linden, and Cattleya × undulata, with Sir Trevor Lawrence.

Among garden hybrids quite a long list could be enumerated, but we must limit our review to the more distinct and striking ones.

Messrs. James Veitch & Sons, as usual, flowered several remarkable novelties, including Epilælia × radico-purpurata, which was figured at page 273 of our last volume, Epicattleya × matutina, Epidendrum × radico-vitellinum, Phalænopsis × Hebe, Spathoglottis × aureo-Vieillardii, Lælia × Olivia, Cattleya × Miranda C. × Melpomene, Lælio-cattleya × Violetta, and the striking L.-c. × Digbyano-Trianæ.

Another remarkable hybrid from Lælia Digbyana flowered with T. W. Thornton, Esq., namely Lælio-cattleya × Thorntoni, a seedling from Cattleya Gaskelliana. Cattleya × Miranda was also raised and flowered in the same collection, as well as with Messrs. Veitch.

Brasso catlælia × Lindleyano-elegans is a remarkable hybrid raised in the collection of Sir Trevor Lawrence.

Dendrobium × Burberryanum and Cattleya × Miss Endicott flowered in the collection of the Right Hon. Joseph Chamberlain, M.P.

Cypripedium × Haynaldo-Chamberlaini from the collection of E. Ashworth, Esq., is probably the first seedling to flower from C. Chamberlainianum.

Lælio-cattleya × Juno is a very interesting hybrid raised in the collection of Norman C. Cookson, Esq.

Cypripedium × conco-bellum and C. × Rolfei flowered with T. Statter, Esq., the latter a hybrid professedly from C. bellatulum and C. Rothschildianum, though there is a slight doubt about it.

Lælio-cattleya × Robin Measures and Cypripedium × Oakes Ames are two interesting hybrids from Messrs. F. Sander & Co.

M. Ch. Maron raised several interesting hybrids in the establishment of M. Fournier, of Versailles, including Cattleya × Astrea, C. × Breauteana, C. × dubbiosa, C. × Fernand Denis, C. × Feuillati, and C. × Gaudii.

Lælio-cattleya × Venus and L.-c. × Lucy Ingram appeared in the collection of C. L. N. Ingram, Esq.

Other interesting hybrids of the year include Dendrobium × Backhouseii, from Messrs. James Backhouse & Son, Lælio-cattleya × Cypheri from Mr. James Cypher, L.-c. × Briseis from Mr. James Douglas, Cypripedium × callo-Rothschildianum, from J. Gurney Fowler, Esq., C. × Norrisianum, from F. A. Rehder, Esq., and C. × Beckmanii from Messrs. Linden.

Two very interesting events which occurred in the collection of Sir Trevor Lawrence deserve to be mentioned here, namely, the flowering of Grammatophyllum speciosum and the beautiful Vanda × Miss Joaquim, the latter a hybrid raised at Singapore, which had not previously flowered in Europe.

DIES ORCHIDIANÆ.

One of the most interesting little articles that I have read in the *Review* for some time was that on "Paphiopedium Seed and the time to sow it" (p. 6), and I congratulate Mr. Young upon the systematic way in which his experiments must have been made and recorded to be able to give such a careful summary of six years' work, including nearly 500 sowings, and over 100 successful ones, already, for other seedlings will yet appear from the more recent sowings. I hope that Mr. Young will persevere in his work, and that some good things will appear as they reach the flowering stage. I am sure that many other readers of the *Review* will value such a record, and I hope that it will stimulate others to record their experiences, for we learn a great deal from thus comparing notes.

I am particularly pleased with the excellent reproduction of Mr. Ball's beautiful Cypripedium insigne Sanderæ at page 17. It is not only accurate, but remarkably life-like, and if one could only reproduce the natural colours automatically with such fidelity, what might we not hope to see in the way of an illustrated work! We frequently hear now-a-days of photography in colours, and as soon as the process is successfully applied to Orchids I hope someone will send me an example.

"Paphiopedilum," says the *Gardeners' Magazine* (Jan. 8th, p. 18), "is

not the name of some new sea-urchin, nor the title of some microscopic fungus recently discovered; it is the generic title by which, in future, our leading botanists wish us to recognise those Orchids hitherto known as tropical Cypripediums. The title is not a new one, for Dr. Pfitzer proposed it in 1886, and recently, in the reduced form of Paphiopedium, Mr. R. A. Rolfe has put it forward. Discussing the matter in the *Botanical Magazine*, Sir Joseph Hooker states that . . . "Dr. Pfitzer also suggested Ascherson's Cypripedilum for the popular Linnean Cypripedium, but this would make what Linnæus wished to be 'Venus' foot Orchids' into 'Venus' or 'Lady's slipper Orchids,' as they are popularly but erroneously known. Sir Joseph reminds us that Cypripedium of Linnæus should have been spelled Cypripodium to be correct, and suggests that to simplify matters and gain uniformity the generic terms Cypripodium, Selenipodium, and Paphiopodium might be used if the change referred to becomes desirable"—on which point Sir Joseph Hooker had remarked that "the only objection being the æsthetic one that, considering the shape of the lip of a Cypripodium, the compliment to the goddess's foot is not a flattering one." (*Bot. Mag.*, t. 7573.)

But is this change either desirable or necessary? The sentimental objection may be passed over, for it seems to me that the compliment is much the same, whether you speak of the goddess's foot or her slipper, the one evidently being intended to fit the other—and, by the way, can any one tell us precisely what the goddess's foot was like? Her collection of slippers, at all events, is pretty extensive and varied, and some of them are obviously a very bad fit. And seriously, I think we have had changes enough in this group. Necessary changes are bad enough, but surely this is not one of them. Linnæus wrote "Cypripedium," and distinctly stated the derivation of the name as from Venus' foot, and I fail to see by what right it was changed to "Cypripedilum," or Venus' slipper. Long ago Reichenbach had something to say on this question, but I fail to lay my hands on the reference at this moment, though I remember that he showed how the initial letter might be changed by some "purist," as well as the terminal syllable and one or two in the middle of the word, and it looks as if we were coming to it. And in spite of what has been written to the contrary I would ask is "Cypripedium" so very erroneous? Many Latin words were adapted from the Greek, and their derivations have Latin terminations, as Epidendrum and Bulbophyllum. And we have the Latin word *pes*, a foot—which comes from the Greek *pous*, *pod-os* (conf. Dr. William Smith)—and is declined *pedis*, *pede*, *pedum*, &c. Again, in some cases, for the sake of euphony, the termination *um* becomes *ium*, so if Linnæus chose to write Cypripedium there is no good reason why we should not do the

same. A similar remark applies to Lindley's "Uropedium" and Reichenbach's "Selenipedium" which Pfitzer changed to Uropedilum and Selenipedilum, though at that time it was known that the former was not a good genus.

The case of "Paphiopedilum" is a little different, but the advantage of uniformity in spelling is obvious, and considering the liberties taken with pre-existing names I am not disposed to quarrel with those who choose to drop the "l." Besides which, the name originally included two genera, for Pfitzer remarked "Unter diesem Namen fasse ich, wie an anderen stelle näher begründet werden soll die Selenipedia acaulia coriifolia Reichenbachs (*Xenia Orchidacea* 1, s. 3) zusammen, . . ."—that is, the American plants now referred to Phragmipedium—but immediately afterwards he added P. insigne and P. Spicerianum, and a few pages later P. barbatum and P. venustum, from the Old World. And subsequently, he added two Catasetums and a Cyrtopera. Paphiopedilum, as a genus, is thus a little mixed. Count Kerchove afterwards adopted the arrangement, but changed the name to Paphiopedium; and finally Rolfe, after excluding the spurious species, showed that two distinct genera were included under the name, for the larger of which he retained the name Paphiopedium, using Phragmipedium for the other. I wonder what will be the next development. It would appear that we have four distinct and well-defined genera in the Cypripedium group (*supra*, iv., p. 330), and I suppose we must adopt the new names, but it is unfortunate that our botanists did not make the discovery sooner. But let us have uniformity of spelling, at all events, and do spare us from this useless tampering with the construction of familiar names.

A good example of how not to do it appears in the *Gardeners' Chronicle* for January 22nd, where I find "Lælia Amesiana, Crawshay's variety" (p. 59, fig. 22). It is said to differ from the "original" in certain points which are specified. On turning to the original L. Amesiana I find it to be a hybrid between Lælia crispa and Cattleya maxima, now known as Lælio-cattleya × Amesiana, and the figure certainly does differ very considerably. There is also a reference to page 47 of a previous issue, but on looking that up I find the plant recorded as "Lælia anceps Amesiana, Crawshay's variety." Now what is the correct name of this plant? Clearly L. Amesiana is incorrect, and if it is L. anceps var. Amesiana there is no need for the additional name. If, on the other hand, it is different, the word Amesiana should be omitted, for either it is that variety or it is not. Last month you wrote "the nomenclature of varieties is in a state of hopeless confusion" (p. 9). Is it any wonder?

ARGUS.

FLOWERS FROM AMERICA.

We have frequently received very interesting flowers from our American readers, sometimes in excellent condition, but too often, in spite of the most elaborate precautions in packing, they can only be described as unrecognisable. A recent mail brought us a box containing a Cattleya flower most carefully packed, with the stalk inserted into a small phial of water through a hole in the cork, but, unfortunately, the flower arrived in a semiputrid state. This flower was accompanied by the request for a report as to its condition on arrival, and a few notes on the question generally may be interesting.

It would of course be useless to send flowers in this way which do not last more than a week in a fresh condition, also old flowers of other species, and it would be much better to press them flat between two pieces of blotting paper, for flowers sent in this way often give a better idea of what they have been than when sent as cut flowers; the chief exceptions being those which turn brown or black in drying. Odontoglossums, Oncidiums, Dendrobiums, and the Cattleya group, preserve their colours for long periods if dried quickly, but fleshy flowers, like Lycastes and Zygopetalums often change colour.

Flowers sent in the ordinary way should be gathered when quite young, a little moist green moss placed round the stalk, and this again wrapped in a small piece of oiled silk, and then fastened to the box to prevent it shaking about. The flower is best protected by a little thin tissue paper. Cotton wool is best avoided, but if used at all, should never be allowed to touch the flowers, as it sticks to them. Too much moisture only hastens decay, and thus does more harm than good. In a few cases where these points have been carefully attended to, flowers have arrived almost as fresh as if cut only the previous day, but much depends upon the nature of the flower sent, and its age, for no kind of packing will preserve a flower which would have withered in the same time if left on the plant.

Sometimes boxes get delayed in transit. A recent mail brought a letter announcing the despatch on the same day of flowers of Lælia and Cypripedium. The box arrived a week later, when the former was dried, but a little mouldy at the base, and the latter had lost its colour and become brown, as possibly it might have been by that time if left on the plant. On one occasion a box was slightly over weight on account of the amount of moss used and was kept back a few days until it had sweated down, and the result need not be described.

The art of sending cut flowers long distances by post seems to consist in preventing damage by crushing and shaking, and in guarding against dessication by too rapid evaporation on the one hand, and decay by too

much moisture on the other. Those in doubt as to the best method of procedure might easily make up one or two trial packages and open them at the end of seven or eight days, noting the result, and those which do not stand well would be best spread out and pressed in blotting paper. It is a pleasure to receive flowers in good condition, but when more or less decayed it is satisfactory to no one.

LÆLIA ANCEPS AND ITS VARIETIES.

LÆLIA ANCEPS is one of the most beautiful winter-flowering Orchids we have, and its variability constitutes one of its principal charms, for it is possible to have quite a number of plants in the collection, yet no two of them being alike. A complete list of the known varieties, thirty-four in number, was given in our fourth volume (pp. 50-53), and others have since been named. A few of them, it is true, differ from each other in very slight characters, but the number which will stand the test of being cultivated side by side, under identical conditions, is larger than in the case of most other species. For the opportunity of comparing a series of eleven varieties grown under such conditions, we are indebted to the Right Hon. J. Chamberlain, M.P., who has now a very fine show of them in his collection at Highbury, many being fine specimen plants, one of them bearing as many as twenty-three spikes.

The white forms are, ALBA, in which every trace of colour has vanished with the exception of the light yellow crest; WILLIAMSIANA, white, with the usual purple markings in the throat: STELLA, similar, but with the addition of a little lilac on the front lobe of the lip; and SANDERIANA, in which the front lobe bears a large purple blotch. The latter is bearing ten spikes with forty-eight blooms.

The coloured forms comprise: BARKERIANA, differing from the type in its narrow petals; GRANDIFLORA, characterised by its large richly-coloured flowers; CHAMBERLAIN'S VAR., nearly allied to the preceding, but rather darker in the lip; PERCIVALIANA, with light rose-pink sepals and petals and a much darker lip; BLANDA, darker than the preceding; CALLISTOGLOSSA, near the last, but with very richly coloured lip; and HIGHBURY VAR., another ally, but with the sepals and petals of a very rich rosy purple shade.

From the size and development of the flowers it is evident that the plants are very well cultivated, and that the locality was not visited with fogs to such an extent as those situated in the London district, where plants of Lælia anceps presented a deplorable sight.

L. A. ROEBLINGIANA is a remarkable variety, of which a flower has been sent by Mr. H. T. Clinkaberry, gardener to C. G. Roebling, Esq., Trenton, New Jersey, U.S.A. It has just received a Silver Medal from

the Pennsylvania Horticultural Society. The flower arrived dried, but after being soaked in water and spread out showed that the petals were irregularly marbled with deep purple, except at the base, and the lip exceptionally deep in colour. The sepals are light rose, but also show a trace of irregular marbling. It is comparable with Cattleya labiata Peetersiana in its irregular colouring, and must have been very handsome when fresh.

We have also received a fine L. A. SANDERIANA from the collection of R. B. Macbean, Esq.; L. A. SCHRŒDERIANA, with very broad white front lobe to the lip, from W. M. Appleton, Esq.; and the broad petalled L. A. DAWSONI, from F. Hardy, Esq., together with a small rosy form of the type.

THE HYBRIDIST.

LÆLIO-CATTLEYA × LOCUSTA.

THIS is a very pretty little hybrid, raised from Cattleya bicolor ♀ and Lælia harpophylla ♂, in the establishment of Messrs. James Veitch and Sons, of which a flower has been sent to us. It is said to have the habit of the Lælia parent, the longest bulb at present being five inches long, and the largest leaf four inches long by three-quarter inch broad. The flower is quite intermediate in shape and colour, the sepals and petals being orange-yellow, the side lobes of the lip, which enfold the column, white, and the front lobe reflexed, narrow, and deep crimson, this colour extending down the disc to the base. It has not yet reached its full development.

ODONTOGLUSSUM × LOOCHRISTIENSE.

A VERY beautiful hybrid Odontoglossum has been sent by M. Ch. Vuylsteke, of Loochristie, Gand, Belgium, raised from O. crispum ♀ and O. triumphans ♂, and the first which has flowered in the establishment. It is quite intermediate between the parents, and in many respects recalls O. × excellens, but differs in having the petals more toothed, the lip not at all pandurate, the crest more like that of O. crispum, and the wings of the column distinctly toothed. The sepals and petals are light yellow, the latter white along the centre from the base to the middle, and unspotted, but the former with one to three brown spots about the middle. The lip is white, except the crest, which is yellow, with a large brown blotch in the front and the usual crispum markings on the claw. It is much finer than any form of O. × Coradinei, and in fact in colour and the broad segments is more like O. × excellens. We congratulate M. Vuylsteke on his success, and hope to see his other hybrid Odontoglossums when they reach the flowering stage.

THE CULTIVATION OF ORCHIDS IN ITALY.

THE cultivation of Orchids in Italy encounters difficulties very different from those which present themselves in England, owing to the power of the sun's rays, the heat, and the extreme dryness of the air, especially in summer.

For these reasons plants must always be shielded from the direct rays of the sun, as if exposed to them the leaves get burned and fall, and if the stems are touched the plant is killed. Plants therefore which need exposure to sun to enable them to flower do not succeed so well. At the same time too much ventilation cannot be given, as the hot dry air is very injurious to the greater number of Orchids. In order to maintain sufficient moisture in the atmosphere frequent syringing between the pots is necessary, and abundant sluicing of the pathways, especially in summer. At the same time it does not do to over-water the pots themselves, which causes the roots to rot.

To protect the plants as much as possible from being scorched, while giving them as much light as possible, awnings are used made of fine reeds—not canes—these allow a half-sunlight to pass; and to keep the glass as cool as possible the awnings run on iron rods, raised a full foot from the glass, to allow a current of air to pass between them and the glass roof. This is found useful also in cold winter nights, as it creates an intermediate atmosphere and prevents the glass from being frozen.

In order to give more moisture to the air and to provide water for the plants at the same temperature as the air, the whole basement of the houses consists of open tanks some six feet deep, supplied with rain-water from the roofs of the hot-houses and also from the villa. This ensures a constant and abundant supply of soft water during the whole year. In these tanks gold fish are kept, as it is supposed that fish assist in softening the water. The pathways rest on longitudinal iron girders, and are practically long bridges over the water supply beneath.

Notwithstanding these adaptations many cool Orchids cannot be grown at all. Of Masdevallias only the Chimæra group, M. elephanticeps, M. gemmata, and M. swertiæfolia, thrive. Many Odontoglossums and Oncidiums are almost hopeless, Oncidum macranthum especially. Odonto-glossum crispum can be grown and flowered, but the pseudobulbs never reach the size attained north of the Alps, nor are the spikes so fine. The same may be said of O. Pescatorei, though it does better than O. crispum.

Hot-house plants do well, especially Phalænopses, Aerides, Saccolabiums, Vandas, &c., as in general also Cattleyas, Lælias, and most intermediate

plants. Cypripediums flourish well, with the exception of C. × vexillarium, which leads an extenuated existence, and perishes in a year or two—the same would probably be the case with C. Fairrieanum. Some plants reputed, I believe, to be "miffy" in England, grow luxuriantly, such as Pachystoma Thompsonianum and Bulbophyllum barbigerum. In a word it may be said that the experience in Orchid growing in Italy is generally the reverse of what it is in England.

Some of the finest plants in my collection are :—Dendrobium taurinum with several stems, three metres high; Arachnanthe Lowii, one metre eighty cm.; Arachnanthe Cathcartii, four stems, each one metre—this grows on a raft suspended horizontally from the roof, from which the growths hang pendant; many pieces have been taken off, or it would have been much larger; Stauropsis lissochiloides, one metre ten cm.; Angræcum superbum, sixty cm.; Cattleya Sanderiana, thirty-four bulbs; Lælia × amanda, forty-one bulbs; Lælia × euspatha, twenty bulbs—portions of the last three have also been detached from time to time; Cœlogyne Sanderiana, thirty-seven bulbs; C. asperata, thirty bulbs.

The notes I hope will be of interest to readers of the *Orchid Review*.

Florence, Italy. H. J. Ross.

OBITUARY.

ANOTHER veteran horticulturist has passed away, M. Jean Linden, who died peacefully at his residence in Brussels on January 12th, in his 81st year. He was born at Luxembourg in 1817, but removed to Belgium, and was one of the first students at the Faculty of Science in the newly-founded University of Brussels. In 1835 he was entrusted with a scientific mission to South America, and during the next ten years he explored various parts of Brazil, Columbia, Mexico, and Central America, during which time he paid considerable attention to Orchids and other plants. He finally returned to Europe in 1845, and placed in Dr. Lindley's hands a collection of dried Orchids with notes on their habitats.

In the following year Lindley issued his "*Orchidaceæ Lindenianæ*; or notes upon a collection of Orchids formed in Columbia and Cuba, by M. J. Linden," a small 8 vo. of 28 pages, with six pages of introduction, containing 143 species, of which 76, or rather more than half, were described for the first time. They included such interesting plants as Odontoglossum luteopurpureum, hastilabium and odoratum; Masdevallia coccinea, triangularis, cucullata, and Schlimii; Maxillaria nigrescens and luteo-alba; and Sobralia violacea; together with three new genera, Uropedium Lindeni, Chondrorhyncha rosea, and Solenidium racemosum. The plants were accompanied by some interesting notes respecting their

habitats. Of Masdevallia coccinea we read:—"This magnificent species grows on the ground, on the southern slopes of the high mountains near Pamplona, at the height of 9500 feet; April. Its brilliant flowers resemble, at a distance, those of the Bejarias, Vacciniums, and other plants of those lofty regions"; and of Epidendrum frigidum:—"This singular species grows on damp rocks a short distance from eternal snow, at the height of 13,000 feet on the Sierra Nevada. It is remarkable for a varnish which covers the whole plant, including the flowers, which are pale rose; August and September." Masdevallia Schlimii was named by Mr. Linden after Mr. Schlim, his half brother and travelling companion, by whom it was discovered." The only Cattleya in the list was the previously known C. Mossiæ, which he met with in 1842, near Caraccas, at a height of 3,000 feet, flowering in March."

Dr. Lindley drew up from M. Linden's notes an interesting analysis of the plants with respect to altitude and climate, and remarked on the great importance of a correct knowledge of these facts by the cultivator. The following note by Dr. Lindley is interesting, as it foreshadows the business which commenced shortly afterwards:—"Of these plants many are alive in the gardens of this country or of Belgium, in consequence of M. Linden having furnished contributions to some of our great English collectors, and having parted with the residue, consisting of between 70 and 80 species to M. Jonghe, . . . Brussels, who has them for sale."

On returning home he established himself in business as a nurseryman at Brussels, and issued an annual catalogue, the earliest one which we have seen being No. 8 of the series, and dated 1853. Some time afterwards M. Linden was appointed Director of the Zoological Gardens at Brussels, presumably in 1856, for his catalogue for that year appears for the first time as "Prix Courante des Plantes cultivees dans les serres de J. Linden, au Jardin Royale de Zoologie et d'Horticulture de Bruxelles." After the death of M. Ambrose Verschaffelt, M. Linden removed to Ghent (this was about 1870), retaining, however, his Brussels establishment for a time. About 1881 the business was turned into a company, called "Compagnie Continentale d'Horticulture," with M. Linden as one of the Directors, a position he also held in another company, "L'Horticulture Internationale," which was established at Brussels when the former one ceased to exist.

M. Linden sent various collectors abroad, Schlim and Wallis being two of the principal ones, and through them he introduced a large number of Orchids and other plants to European gardens, many of which were described by Reichenbach, in the *Gardeners' Chronicle* and elsewhere.

In 1860, with the collaboration of Messrs. Planchon, Reichenbach and Lüddemann, he commenced the publication of an illustrated work relating to Orchids, entitled *Pescatorea*, of which, in spite of its excellence, only 12

parts and 48 plates appeared. In 1870 his name first appeared as Director of *L'Illustration Horticole*, a work which had been established and carried on by M. Charles Lemaire for 16 years, and from that time almost until its cessation, a quarter of a century later, he retained his connection with it. Finally, in 1885, was commenced an illustrated work upon Orchids, with M. J. Linden as Director, and *Lindenia* as title, a work whose character is well known.

Linden's knowledge of Orchids and their habitats was very extensive, and he brought it to bear on their culture with good effect. He received numerous marks of honour from his own and various Continental Governments, and his funeral at Brussels on January 14th was attended by representatives of the Government and a large number of horticultural and other friends.

A VISIT TO BURFORD.

It is not the first time by any means that readers of the *Orchid Review* have heard about the well-known collection of Sir Trevor Lawrence at Burford, Dorking, but an account of such a collection might be written for every month of the year, and it will be interesting to mention briefly the most striking things which were to be seen there during January last.

It is fortunately situated far enough away from any centre or town where that mixture of smoke and fog is too often found which is so injurious to Orchids, as was explained in last month's *Review* (page 20), in a narration of fog effects. As a result of this immunity, all the winter-flowering Orchids were in full beauty at the time of our visit, and for any one who witnessed the disastrous effects of the Christmas fogs in the London district, it is really surprising to notice the quantity of plants in flower at Dorking at this time of year.

We were very much struck with the beautiful winter-flowering Lælias, chiefly several white forms belonging to the anceps and autumnalis group. Lælia anceps Dawsoni is a splendid variety, the sepals and petals are of the purest white, also the exterior of the lip, while the throat is beautifully veined, and the front lobe tinted with purple. Lælia autumnalis alba is another great beauty, possessing only a small yellow mark on the lip. Beside these valuable kinds, other forms of L. anceps were showing their charming flowers.

A little further on we found several interesting hybrids, part of them reared at Burford. Cypripedium × conco-Lawre is a characteristic hybrid, and a point which attracted our attention, is that the influence of C. concolor is largely developed in the foliage. C. × callo-bellum, with

three large flowers, is another distinct acquisition, in which the influence of C. bellatulum is very marked in the texture of the flower. It has much of the C. callosum shape, but is a trifle larger, and the petals much broader, while the whole plant is rather compact in habit. C. × chloroneurum is another interesting hybrid now in flower.

In another house we found a very fine collection of Maxillarias, and we also noticed the rare and pretty Dendrobium Wattii, a distinct species of the Nigro-hirsutæ section. The habit of the plant reminds us a little of D. Jamesianum, but the flower is more like D. cariniferum, though white in colour and without the keeled ovary. Pleione humilis was also in flower, the plants being remarkably well grown. Masdevallia tovarensis was in full bloom, and the flowers resembled patches of snow laid on the foliage. On the other side was a very pretty and well-flowered specimen of Camaridium Lawrenceanum, and the beautiful Lycaste Skinneri delicatissima, figured in *Warner's Select Orchidaceous Plants* (i, t. 10, fig. 1).

In the next house we found in flower the old Vanda tricolor, Lælio-cattleya × corbeillensis and × Sallieri, two very remarkable generic hybrids, and the curious Brassocatlælia × Lindleyano-elegans, in which the influence of Lælio-cattleya × elegans comes out strongly in the lip. Crossing the Odontoglossum house, we noticed a very fine specimen of O. crispum, well spotted, and on the other side the remarkable Masdevallia racemosa, with its brilliant colour. In the next one we found on our left a beautiful sight of Cypripedium × Leeanum, which offered a good field for study in regard to the amount of variation between different forms of the same hybrid. The very rare C. Fairrieanum is represented here by three specimens, small but very healthy, and in flower beside them was C. × Niobe, very interesting, and one of its direct descendents. Epidendrum Endresii is also a pretty small plant, its white flowers having a small purple spot on the lip. Miltonia Endresii is also a very rare and distinct species belonging to the vexillaria section of the genus. Sobralia Lindeni is also a beauty. Its flowers were a little over, but owing to their veined lip, put us in mind of Cattleya maxima. A beautiful specimen of Bulbophyllum reticulatum was also noted, its leaves being reticulated with white lines; and before leaving this house we must mention a very fine specimen of Sophronitis grandiflora, really the finest we have ever seen. A description has already appeared in these pages (iii, p. 112).

Passing to the next interesting house, which could be called a Show house, on account of the numerous plants in bloom, we saw a beautiful exhibition of Calanthe hybrids, chiefly obtained at Burford, which made a most brilliant display. These plants have received special attention

on account of their great merit as winter bloomers, and the shades of colour were something grand, from the darkest variety of Calanthe × Veitchii to the purest white. We may mention C. × Bryan, with its pure white sepals and petals and its rich purple eye; C. × burfordiense, a brightly coloured form; C. × porphyrea, C. × nivalis, and C. × Victoria-Regina, with many others. We must not forget to say that Burford is one of the few places where the old Calanthe rosea, formerly known under the name of Limatodes rosea, can actually be seen.

Dendrobiums are very well represented and grown, and the number of hybrids which have been reared at Burford is known to all. D. × burfordiense is a very beautiful one which we had the pleasure of seeing. Here were also the rare D. Mooreanum with about a dozen flowers, and D. cymbidoides, a pretty Javan species whose blossoms look more like those of a Cœlogyne than of a Dendrobium.

On the middle stage we noticed a fine specimen of Schomburgkia Kimballiana in flowet, in company with the curious Galeandra Devoniana, which is also very handsome. Suspended from the roof is a most complete collection of Bulbophyllums and Cirrhopetalums, and several of them are very attractive when in flower. On the other side is a very valuable collection of Phalænopsis and Cypripedium, and we also noticed the rare Angræcum Kotzchyanum, which is believed to be represented in Europe by only three specimens.

One of the most striking plants for us was a splendid specimen of Vanda Sanderiana, which is certainly one of the strongest plants in cultivation. On its roots a quantity of very small seedlings have germinated, and it would be rather interesting to know what that small colony is, and how the seeds got there. Nothing is known of their previous history.

We saw also with great pleasure the Grammatophyllum speciosum, which flowered last year and which was the fifth plant flowering in Europe. Sobralia Cattleya is also worth mentioning as a plant which has not yet flowered. It has undergone various treatments, but no satisfactory result has been so far obtained. It has been grown as cool as possible, has passed a complete summer outside, and now, as it does not seem to have ripened, Mr. White proposes to submit it to still more radical treatment. We hope he may succeed in flowering it, which no one has yet accomplished in Europe.

The collection is certainly remarkable in many respects, and we congratulate Sir Trevor Lawrence, and his able grower, Mr. White, on their success, both in the cultural and hybridising departments.

ODONTO.

DESTRUCTION OF COCKROACHES.

THE question of the destruction of cockroaches was mentioned at page 8 of your last issue. If your correspondent will purchase some of Chase's beetle poison, and lay a few boluses about the haunts of the cockroaches, following it up for a time, he will soon find them disappear, and perhaps may not see a dead one. Of course, it is almost impossible to eradicate them altogether, but enough to make them perfectly harmless with a little perseverance; in fact this is how we cleared them out here some years ago, and we have been troubled very little since. I may also state that no domestic animals will touch it.

Marlfield,
West Derby,
Liverpool.

THOS. ARCHER.

I notice on page 8 an article dealing with the destruction of cockroaches, in which a correspondent desires to know the best way of getting rid of these pests. Having been troubled with them myself amongst the Orchids here, we were advised to try the "Magic Paste" manufactured by Messrs. Penny, Hester & Co., of Dalston. We got a pot last November, and tried it, the result being that we are now seldom troubled by cockroaches, only an occasional one being seen. It is the best thing I have ever used, and can thoroughly recommend it to anyone pestered by cockroaches. It is also an excellent destroyer of rats and mice, as I have found dead ones after using the paste. I hope that this will be found useful to your correspondent.

Ashlands,
Newchurch,
Nr. Manchester.

EDWARD C. H. PIDSLEY.

I can thoroughly recommend beetle-paste for cockroaches, which is easy to use and very efficacious. I tried it a month ago, when I had lost several blooms of Lælia anceps and Sophronitis grandiflora, which they seemed to find especially delicious.

The paste was laid in lumps on the small coal with which my stages are covered, and the next day we found several cockroaches lying dead on the ledges of the water troughs, which run under my hot-water pipes, having apparently been dried up by the poison. The only drawback to it is that it must be constantly renewed as it soon gets mouldy and then ceases to be palatable.

High Bickington,
N. Devon.

A. M. BARTON.

PAPHIOPEDIUM × DEEDMANIANUM.

THIS is a very interesting cross between P. Spicerianum and P. Chamberlainianum, the latter being the pollen parent. It was raised about five years ago by Mr. W. B. Latham, the able Curator of the Edgbaston Botanical Gardens near Birmingham, and has been grown on by his foreman, Mr. Deedman, whence the name which has been given to it. The dorsal sepal is larger than that of average forms of P. Spicerianum, creamy white with pale green at its base, a purple streak up the centre, with shorter lines of the same colour running half way up, the intermediate

FIG. 2. PAPHIOPEDIUM × DEEDMANIANUM.

spaces dappled with reddish brown spots. The petals are longer than those of either parent, and are of a delicate green tint, lined and spotted with the same colour as the dorsal sepal, twisted and undulated along the edges with marginal tufts of dark hairs smaller than those of P. Chamberlainianum. The labellum resembles that of P. Chamberlainianum, but is larger and of a brighter and more rosy colour. The staminode is reddish brown. In foliage, habit, and freedom of growth, the plant resembles P. Chamberlainianum, but it is more robust and the flowers

Mo.Bot.Garden

exceed in size those of P. Spicerianum. At present two flowers have expanded on one stalk, and there is some appearance suggestive of a third, but it is impossible to say yet whether it partakes of the character of continuous flowering, which makes P. Chamberlainianum so valuable. Altogether the robust habit of this hybrid, together with the large size of its flowers and its beautiful colouring, should make it a very desirable variety.

A. W. WILLS.

Claregate, Wylde Green,
Birmingham.

The photograph here reproduced was taken by Mr. Wills, together with another showing the whole plant, of which a copy has also been sent. The influence of the pollen parent is very obvious in the petals and lip, and is equally well marked in the habit of the plant. We congratulate Mr. Latham on having raised so interesting a hybrid.—ED.

ORCHIDS IN THE LAW COURTS.

ASHWORTH v. WELLS.

BEFORE Justices Day and Lawrance (forming a Divisional Court) a few days ago the matter of Ashworth v. Wells came on for hearing, which involved a rather peculiar point. Mr. C. A. Russell, Q.C. (with whom was Mr. Tweedale), stated that this was an appeal from the decision of the County Court Judge of Manchester in an action for breach of warranty. His Honour Judge Parry had decided in favour of the plantiff, who, however, now quarrelled with the amount of the verdict, and the point to be now decided was whether the learned Judge did not hold wrongly upon the question of the measure of damages in such an action as this. The facts as they appeared on the learned Judge's note were these:— The defendant, Mr. Wells, down to June, 1895, was the possessor of a very large and very well-known collection of Orchids. At that time, for some reason, he determined to dispose of his collection. Consequently, he put the matter into the hands of Messrs. Protheroe and Morris, Auctioneers, and the sale took place on the 27th June, 1895. In the usual way the Catalogue was published, and amongst the plants inserted as for sale in that Catalogue was one lot, described as a "Cattleya Aclandiæ alba," which was believed to be the only known plant of its kind. For, although it had been the ambition of growers to produce a white specimen, they had never hitherto succeeded. But the defendant held he had succeeded in producing this "rara avis." It was, therefore, put in the Catalogue, and it could not be denied that the description in the Catalogue amounted to a warranty. Now Mr. Ashworth was also

an Orchid grower, and he bought this piece for the sum of twenty guineas. Having purchased it, he took it away in order to cultivate it. After two years' careful tending the plant flowered, but, unfortunately, instead of giving forth the coveted white bloom, it yielded instead a common purple flower, worth about 7s. 6d. Mr. Ashworth's hopes, of course, were dashed to the ground. He, therefore, brought an action for breach of warranty. At the trial defendant called no witnesses, and all the evidence called for the plaintiff was that, had the warranty been true, this plant had a value which exceeded £50. Ultimately the learned County Court Judge gave judgment for the defendant, who had paid into Court the sum of twenty guineas, which, he said, was all the plaintiff was entitled to. Defendant did not deny the warranty, and it was now submitted that the plaintiff, on the finding of the Judge in the Court below, was entitled to a verdict of £50, because the least in the action for breach of warranty the plaintiff was entitled to was the difference between the value which was given him and the value the plant would have had had it flowered white according to the warranty.

Mr. Montagu Lush, for the respondent, submitted to the contrary, and that the appellant paid the market price for the piece at the sale.

Mr. Justice Day, in giving judgment, thought the County Court Judge had erred on a matter of law, although he very much agreed with one portion of his judgment, which was that had this bulb turned out a white "Cattleya Aclandiæ" it might have been worth any sum. But he (Mr. Justice Day) was not in a position to say what such a flower would be worth if it existed. It never had any existence, as a matter of fact, and as far as one could tell it might never be grown. The County Court Judge, therefore, was also unable to ascertain its value. It was simply a speculation. However, the appellant was entitled to what he paid for it, with interest on his money, and some compensation for what costs had been incurred in the tending for two years. The Judge below had assessed the damages on a wrong principle, and the case must go back for the damages to be assessed rightly.

Mr. Justice Lawrance said that personally he should have preferred dealing with this matter here at once, but he could not say that he disagreed as to its going back to the learned County Court Judge. He thought the latter had gone wrong, and speaking for himself he thought the true measure of damages in this case was not that which was contended for by Mr. Lush, namely, the difference between the market price and what the thing would sell for. There was a long current of authorities which showed that the rule which has always been acted upon was this—namely, the difference between the value of a thing, with a defect, which is warranted, and without a defect—that is to say what

is the value of it, and not what is the contract price. That was the distinction he thought existed between the two classes of cases, and that is where he thought the learned County Court Judge had gone wrong. In this case the evidence was all one way—it was not even controverted in the slightest degree. It was shown by Orchid growers who were called, three or four of them, that if this plant had been what it was represented to be it would have been worth, taking the average of the prices given, £100. Now that was the state of things before the learned County Court Judge, and the question was, "Is the Plaintiff entitled to more than the amount he gave for it, the contract price? Is he entitled to what it is worth?" If he is entitled to what it is worth without the defect, then I think he is entitled, assuming he had not been suing in the County Court, to what any jury would give, namely £100, which is the average of the sums fixed by the various Orchid growers called, who would know, he supposed, what the value of a Cattleya Aclandiæ alba would be. However, he agreed that the case should go back to the learned County Court Judge for some expression of opinion as to the principle upon which damages should be assessed.

The appeal was allowed with costs.

HYBRIDISING DENDROBIUMS.

A GOOD deal of information has been afforded in your columns respecting the raising of Cypripediums from seed, which has been of much interest generally, and to the lovers of that section particularly so. As an amateur and my own gardener, I have for some five or six years, as a relaxation from other cares, been a cultivator of Orchids, and more especially of Dendrobes, the majority of which species seem to thrive under the conditions easily obtainable in our glass-houses, even within a large town. Now that the flowering season of the majority of the Dendrobes is approaching, or has commenced, perhaps the following particulars may be of interest to those who succeed with this variety of Orchid (and I fancy they are the greater number of small cultivators), and who wish to try their hands at the fascinating pursuit of raising new or improved varieties from seeds.

In my comparatively small collection I made fifty-two attempts at fertilization during the months of March, April, May, and June last year, of which an encouraging proportion has resulted in fruit being produced, from which good seed has already been sown, or may reasonably be expected to be available shortly; and the half success of several crosses is an encouragement to persevere with those varieties generally acknowledged

to be difficult to manage, the combination of which hold out expectations of easier culture under ordinary conditions—for my experience is that seedlings raised in this country flourish, where the imported parents are amongst those which deteriorate in the hands of such as have not special accommodation for them.

My house is a span-roofed one, with an orientation North and South, somewhat shaded in the winter by higher buildings on the East and West sides, so that it labours under the disadvantage of receiving only about two hours of direct sunlight in mid-winter. One third of the house is partitioned off from the rest as a warmer portion, that end being unfortunately the most shaded, but it is more conveniently near the source of heat—a steam main.

One difficulty in raising seeds in a small collection, necessarily, is to have desirable species in flower together, and much non-success is undoubtedly due to the unripeness of either pollen or stigma, and this uncertainty applies particularly to pollen which has been borrowed from other collections, points which materially, I think, affect the results, but requires greater experience that I can at present venture to claim for its elucidation. The greatest care, of course, should be taken in making experiments to avoid the possibility of self fertilization of the flowers, or much disappointment after years of anxious expectation and care with the seedlings will follow, and careful records should be made at once, and a label attached to the particular pedicel, to avoid any future confusion; also any undue excitement of the stigmatic surface from rough handling is likely to deceive by producing a spurious appearance of fertilization, only to be cleared up when the pod ripens, which then is found to contain nothing but chaff.

The detailed list of the crosses I have made could be given, but I fear would take too much of your space. It comprises most of the nobile, fimbriatum, and nigro-hirsute species, and in many instances the reverse cross has been made, and fresh trials where failure resulted. Good pods were secured on D. nobile × D. Findlayanum and the reverse cross, twice, D. n. × D. × Ainsworthii intertextum, D. n. × D. Wardianum (this pod burst in November, when the seed was yet quite green, but in other respects excellent, and it is apparently germinating freely); D. × Leechianum × D. Findlayanum, D. aureum × D. crepidatum, twice, and D. primulinum × D. fimbriatum oculatum. This last is interesting, but I fear will have to be numbered amongst the half successes, for although the pod is still green, and has persisted since 21st May last, it does not look plump enough to contain good seed.

The other partial successes are D. nobile × D. primulinum (the ovary enlarged but withered after some weeks); D. n. Cooksoni × D.

Findlayanum, and the reverse cross (pedicels decayed during the resting period before the seed was ripe, of which trouble I have had several instances with Findlayanum parents); D. nobile × D. Devonianum (a most desirable cross, but one which failed after four months; and D. clavatum × D. crepidatum, which failed after persisting three months.

These observations I trust will be of interest to your readers, and will not unduly encroach upon your space. [Such communications are specially welcome.—Ed.]

Liverpool. F. H. Moore.

ORCHIDS IN SEASON.

The advent of this month, with the gradually lengthening days, and the corresponding increase in the sun's power, brings again the season of renewed activity. February, indeed, is the real month of awakening in the Orchid houses, and it brings with it for all of us a kind of satisfaction, as we know that once more we are leaving behind us the dull season so injurious to the majority of our favourites. The work also is gradually increasing, and now we shall have something fresh every day to repay us for all our attention during the winter. What a pleasure it is to watch the numerous spikes forcing their way up, and the flowers opening, enabling us to make comparisons with what we have had in previous years; how the past season has affected their development, and how such and such a species flowered a little earlier or later. In such observations we see a little of the way in which the rules of nature are carried out, and how each plant responds to the conditions under which it is placed, as if endowed with consciousness as well as life.

We will take a glance round the houses to see what February will bring us. January gave us a very little idea of the new year, as the plants in flower were chiefly a continuation of the numerous winter-flowering Orchids, as several Cypripediums, Lælia anceps with its valuable varieties, Sophronitis grandiflora and violacea, Zygopetalum intermedium and × Clayi, Masdevallia ignea, × Heathii, melanopus, Reichenbachiana, striatella, tovarensis, and triangularis, Vanda Amesiana, and a few Dendrobes.

If we attempted to give a complete description of the numerous varieties of Orchids which will flower during this month a short pamphlet would be required, and we must cut our notes short in consideration of the small space which is allotted to us.

A few late-flowering Calanthes are now to be seen, as C. rosea, C. Regnieri, and C. × bella, worth mentioning. Among Cattleyas, C. Percivaliana, Trianæ, and Schrœderæ, are blooming and are very welcome,

for C. labiata vanished with the old year. Coelogynes are also very promising and will be in flower before the end of the month, chiefly the handsome C. cristata with its varieties. Cymbidiums are also pushing their numerous spikes, and some of them will remain in flower for several weeks. C. Lowianum, eburneum, Mastersianum, and the rare C. tigrinum, are plants that ought to have a place in every collection.

A quantity of Cypripediums are now showing their flowers, and as they have the great merit of remaining in good condition for several weeks, the show during February and March generally forms one of the most noticeable sights. Several well-known hybrids are now widely disseminated in collections, and many of them are very free blooming, as C. × Amesianum, × Io, × Dauthieri, × Measuresianum, × politum, × œnanthum superbum, × Lathamianum, and × nitens. Of the natural species we have the fine C. Argus, Boxallii with its variety atratum, Exul, Lawrenceanum, the old C. barbatum, callosum, and villosum, and we must not forget the two distinct species, C. Chamberlainianum and Victoria-Mariæ, which are still blooming, in fact they keep up a succession for months.

Dendrobiums are also in season and will soon form a fine display. Hybrids are now found in many places, chiefly D. × Ainsworthii and its superb varieties, also D. × chrysodiscus, and D. × burfordiense. All the descendants of the aureum, nobile, and Wardianum section are all early flowering, and are now making a fine display. With regard to natural species we have a very various group, as D. crassinode, crepidatum, Findlayanum, gracilicaule, Kingianum, moniliforme, nobile and its numerous varieties, Pierardi, primulinum, sarmentosum, speciosum, and Wardianum, which contribute largely to the gaiety of the collection.

A few Epidendrums are also showing, namely, E. ellipticum and ciliare, also the curious Gongora galeata, and the handsome and richly-coloured Lælia harpophylla, L. glauca, and the rare L. virens. Leptotes bicolor and Lycaste Skinneri are also showing their buds, while of Masdevallias, we have M. polysticta, Macrura, leontoglossa, ignea, and several species belonging to the Chimæra section, which are now very promising.

Odontoglossums are now very important. Several of them began to flower last month, but their proper season is now coming. The beautiful O. crispum, Pescatorei, triumphans, gloriosum, maculatum, cirrhosum, Hallii, Edwardii, Cervantesii and Œrstedii, are coming on very rapidly. Miltonias cuneata and Roezlii are also showing their first flowers. Several Oncidiums now sending out their spikes are O. ampliatum, Lucasianum, Papilio, Krameri, pubes, splendidum and macranthum, and this does not exhaust the list.

Phalænopses are now beginning to flower again, chiefly P. amabilis, Boxallii, Lowii, Lueddemanniana, and Schilleriana will most certainly be open during the month. In the London district fog has played sad havoc with some of the early buds. Several Phaiuses, which ought to be more largely grown, are also flowering, namely, P. grandifolius, maculatus, and callosus, and we must not forget the beautiful P. × Cooksoni. The pretty little Restrepia striata is promising well, and Saccolabium giganteum, and violaceum are already open. Selenipedium furnishes some valuable flowers at this season, S. × calurum, × cardinale, Roezlii, and × Sedeni candidulum are now in flower, and will remain so for another two months or more.

Among botanical species are to be seen some really fine blooming plants, as Tainia augustifolia and penangiana; Trias picta and vitrina are also showing their curious flowers, and the handsome Spiranthes colorata is now in full bloom. Xylobium corrugatum, and leontoglossum are also flowering, and it would be easy to give quite a list of botanical species, some of which are well worthy of more extended cultivation. Space, however, is limited, and the above contains a selection of the better known kinds, and we hope the list will prove interesting to the majority of our friends of the *Review*. Next month will doubtless prove still more productive.

ODONTO.

THE LATE MR. JAMES BATEMAN.

THE following extract from a letter received by me in March, 1892, from the late Mr. Bateman will probably be read with interest, as it shows the character of this remarkable man, besides giving some facts which are probably not elsewhere recorded. The letter arose out of my articles on Cycnoches in the *Gardeners' Chronicle*, and after some interesting details about C. ventricosum and C. Egertonianum as figured in his "big book," as he termed it, he proceeded :—

"Mr. Lance (after whom Oncidium Lanceanum is called, and who discovered Cycnoches Loddigesii in Surinam) has not been dead many years. He was a barrister and a member of the Athenæum. I remember nearly twenty years ago going to his rooms in the Temple, together with Mr. Huntley (hence the genus Huntleya), who was a friend of his, where we both feasted our eyes on a large portfolio of drawings (by Mr. Lance himself), which he brought with him from Surinam. Lindley, in a letter to me, describes *his* first visit to them in these words :—'Oh ! I have just seen such drawings of such things from Surinam—beautiful beyond description,

and nearly all new!! Among them Loddiges' Cycnoches, in perfection. [Here came a rude sketch.] Nearly twenty such flowers!' This nearly drove me mad, and if Lance had not given me a living plant, I don't know what would have become of me! Loddiges' plant, as figured in the *Botanical Cabinet*, produced only two flowers. I was more fortunate, and after twelve months' cultivation a flower scape bearing at least a dozen flowers made its appearance in the *same house* that some twenty years later was startled by the apparition of C. ventricosum and C. Egertonianum on the same stem! C. Loddigesii, however, never played any tricks at Knypersley. The twelve-flowered spike I regarded as a prodigy in itself, and succeeded in drying it perfectly. If you live thirty years (is not *that* the period during which Reichenbach's Herbarium is to remain sealed?) you may yet see this specimen, for I gave it to Reichenbach when he called at my house in London shortly after Lindley's death. Little did I then think that I should never see *him* again. You must kindly pardon all this garrulity in an octogenarian. I need scarcely say that if there be anything in my former letter or in this that you can utilise in any way it is entirely at your service."

The remarks on Cycnoches are too long for reproduction, but a few extracts will supplement the account already given in the *Review* (iii., pp. 233-236). Speaking of plate 5, he remarks:—"The pseudobulb which carried the capsule was all that came in the box, which I *unpacked myself* in the West India Docks early in June, 1836. I sent it down to Knypersley at once—my Orchid houses were *furnaces* then—and in the autumn it flowered as represented. No more plants of C. ventricosum were received until two years later, and then came as what ought to have been C. Egertonianum. And now we will pass on to plate 40, where both the mysterious racemes are shown as proceeding from the same pseudobulb, though, as you rightly remark, 'it is clear they were not borne simultaneously.' But they followed each other after a short respite—I believe, in about three weeks—and I can positively assure you that they were watched as carefully as the Koh-i-noor itself. Never a day passed without my inspecting them. As to the withered flowers, they remained many months on the plant, and were seen by many people, including Sir P. Egerton, after whom the species was called." These reminiscences are extremely interesting, and if we carry ourselves back for a moment to the period in question, when nothing was known about the difference between the sexes in this group of Orchids, we can easily understand the astonishment with which the production of two such very different kinds of flowers on the same pseudobulb was regarded.

R. A. Rolfe.

CALENDAR OF OPERATIONS FOR FEBRUARY.

By H. A. Burberry.

Certainly this balmy "South-of-Cornwall" kind of weather we have experienced for the greater part of the present winter should—where Orchids have been properly cared for, and black fogs do not trouble—have worked wonders. What a small amount of fire heat has been necessary to be sure, and what a grand supply of light and fresh air the plants have enjoyed compared to that of our winters generally, and it cannot fail to have but a good effect on Orchids in all departments.

Let me once more advise that no pains be spared in providing the most beneficial atmosphere and the best conditions generally within our Orchid houses, for therein, and therein only, lies the secret of success. The conditions that are most suitable for the well-being of Orchids are likewise the healthiest for the men who grow them—the plainest, the simplest, and easiest of all to create. When once the growing conditions required by an Orchid are thoroughly grasped and understood, the maintenance of such conditions then becomes simplicity itself. Success does not come to those who coddle their plants up day after day, and week after week, in a suffocating, oppressive, and unduly exciting atmosphere. They only make for themselves an enormous amount of useless work, consisting of damping down, cleaning, &c., and at the same time are rewarded by seeing their plants gradually but surely become weak and spindly, and quite unable to push forth a strong break, or growth, which in its turn would produce a strong healthy truss of flowers. Orchids, like other plants and flowers, unless seen in their full beauty, lose much of their attractiveness. Those on the other hand who make a cardinal point of employing fresh air, and using warmth and moisture in moderation, according to the season of the year and the outside conditions of the weather, not only have the satisfaction of seeing their charge improve in sturdiness year by year, but find that the time and attention demanded becomes less and less in accordance with their experience.

The "man at the wheel" is the stoker. It is very important that he should be a man of intelligence, having some forethought and capable of making use of the same. What a boon a thoughtful stoker is! It is not too much to say, and none will deny it, that on him depends to a very large extent the success or non-success of the cultivation of exotic plants.

Dendrobiums.—Many of the earliest to flower of these will now have finished and be starting again into active growth. Such kinds are D. aureum, D. × Cassiope, D. japonicum, D. × euosmum, the earliest batch of D. nobile, and a few others. Attend to them and do whatever is required in the matter of repotting or top dressing, but do not on any account hurry

them into quick growth by placing them in stove heat so early as this. Give them but little water at the root, and allow them to remain in the cool or intermediate temperature for some time to come—certainly not higher than the latter—and the new growth will then progress slowly but sturdily, the old pseudobulbs will become plump, and by-and-by, when the proper time arrives, the new pseudobulbs will quickly develop long and stout. The earliest to bloom of Dendrobium Wardianum should now, if they have had proper winter quarters, be just coming on, and the new growths should be about two or three inches long, perfectly green and healthy-looking. Allow the blossoms to expand in the cool or intermediate temperature, where they will come of more substance and of finer quality. After blooming, allow these to remain also in the Cool house for some time to come. D. crassinode and D. primulinum will quickly follow, and the same treatment applies to them. Be careful to keep all pretty short of water until the season is farther advanced, or trouble will come in the shape of the young growths damping off, and this with Dendrobes is a catastrophe indeed, and must be avoided if possible.

CATTLEYAS.—In this genus I am afraid I can foresee only too clearly that for those who are fond of hunting there will be plenty of "sport." Remember that those fine fat new growths which break so plentifully, but prematurely, from Cattleya labiata during the autumn and winter—which is, of course, two or three months before the natural time—are as likely as not the direct result of the Cattleya fly. I would advise those who do not know this pest and have valuable Cattleyas under their charge to be on their guard. The repotting of Cattleya Trianæ may now be proceeded with—that is to say, all those which have passed out of flower. Make a point of getting the repotting as forward as possible, for as the season advances there are many plants that require attention in this respect, and all at the same time. In order to take time by the forelock in this respect I have before now taken in hand Cattleya Mossiæ and C. Mendelii and done what repotting was necessary during the present month. If the plants are perfectly healthy this root disturbance before the flowering period—if carefully done and due attention given afterwards—has not such injurious effects as it is generally supposed; indeed, in many instances I believe it has been more beneficial than repotting after blooming, because the season is then far advanced, and the new roots which have for several weeks been growing so luxuriantly are then broken and otherwise injured to such an extent that a great check is given to the plants. Of course, to repot a plant in doubtful health, and to allow it to bloom immediately afterwards, would kill it beyond doubt. But then a plant in bad health should never be allowed to bloom at all. As is well known to the readers of the *Orchid Review*, I do not generally recommend the repotting of Cattleyas before

blooming, but still, if discretion is exercised, many may then be done. C. Gaskelliana is just now pushing forth new growths, and the necessary repotting should be delayed no longer. Do not repot unless there be sufficient cause, otherwise the plant receives unnecessary injury.

The present is the very best time for the repotting of Masdevallias, as they commence now to make the most healthy roots of the whole year, and will quickly become re-established, and flower the better in their respective seasons.

Disas having been wintered comparatively dry in the temperature of a greenhouse, may now be given water a little more frequently. If kept free from thrip and aphis they will make rapid headway, commencing to push up their flower spikes to bloom about August.

Cypripediums are perhaps the easiest of all Orchids to cultivate, as they manage to grow and do well in almost any temperature. The Intermediate house, however, best suits the great majority. These having been kept moderately dry during the winter, may now have water applied more freely. Repotting should take place after blooming only. They do best in two parts good lumpy peat to one of chopped sphagnum moss, intermixed with a few small broken crocks and sharp silver sand.

This is a very good time for repotting Miltonia vexillaria, or the plants may be left over until after blooming. If they are in good condition I should prefer the latter, but if in doubtful health they may be done now with good results, as the roots are now so active that they soon re-establish themselves, and in a few weeks will show signs of improvement.

But few of the Cool house Orchids will require repotting this month. A few, however, may be done at all seasons of the year. Each plant should be taken in hand when it requires it, which is when flowering is past and the new break appears from the base. There are, however, some exceptions, and the genus Anguloa affords an example. These plants should be re-potted now—which is, of course, before blooming—as the new growths and flowers appear simultaneously.

It is now time to put up the summer blinds, so that they may be ready for use. The early Spring sun is sometimes very powerful, and the plants being somewhat tender, through having passed through a period of dull weather, are rendered liable to injury. The blinds are also a great protection against the cold, piercing winds, which, coming as they frequently do accompanied by bright sunshine, have the effect of drying the atmosphere too much for the welfare of the plants. A good many leaves are often lost through neglecting the blinds, especially after fumigating, and although Richardson's "Vaporiser" and McDougall's "Fumers" are much less injurious than was formerly the old tobacco paper, &c., yet I have seen much damage done to the foliage, caused by the sun popping out brightly

the following morning after fumigation has taken place, whereas if the blinds could have been run down it would have been avoided. The weather, as before remarked, being so exceptional throughout the winter for its mildness, it has been necessary to damp down but sparingly—in fact, many days have passed by without a drop of water being put down. Should we, however, have a spell of hard, dry weather, the matter of supplying moisture must be attended to, as the sudden change from a saturated atmosphere to an excessively dry one is another source whereby during the early Spring many leaves turn yellow and sickly, and ultimately are lost. The beauty of an Orchid when not in bloom is its healthy green leaves, and as they are also the main source of strength of the plant, every possible means should be taken to preserve them.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

THE first meeting of the year was held at the Coal Exchange, Manchester, on the 13th January, 1898, when plants from ten exhibitors put in an appearance, and two First-class Certificates, fourteen Awards of Merit, and one Cultural Certificate were given.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), exhibited Odontoglossum × deltoglossum Stevensii, a very beautiful form with distinct yellow margins round the petals and sepals; Cypripedium × Sallieri, a very distinct yellow form with the white margin usually found round the dorsal sepal entirely absent; and C. × Calypso; all of which obtained Awards of Merit.

G. Shorland Ball, Esq., Ashford, Wilmslow (gr. Mr Hay), showed Cypripedium × triumphans, with a very large flower, good in colour (First-class Certificate); C. bellatulum album, with an exceptionally large flower (First-class Certificate); the beautiful and rare albino, C. venustum Measuresiaum (Award of Merit); C. × Leeanum giganteum, with four flowers (Award of Merit); C. × Swinburnei magnificum (Award of Merit); and Dendrobium Johnsoniæ, with a spike of nine flowers.

A. Warburton, Esq., Vine House, Haslingden (gr. Mr. Lofthouse), showed a yellow Cypripedium insigne, entered as Sanderæ. This plant must have either been grown in great heat or have been a long time in flower. The bloom was very small, poor in colour and the dorsal sepal much twisted. The Committee did not recognise it as Sanderæ and it obtained no Award. The same exhibitor also exhibited C. × Madame Georges Truffaut, which obtained an Award of Merit.

Thomas Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson),

exhibited Cypripedium × Niobe (Award of Merit), C. × Ariadne, C. × Calypso, C. × annamense and C. × Lathamianum.

John Leemann, Esq., West Bank House, Heaton Mersey (gr. Mr. Edge), showed an interesting little group consisting of Odontoglossum crispum (Award of Merit), Lycaste Skinneri, L. S. alba, Oncidium tigrinum, Cypripedium × Calypso, C. × Leeanum superbum, C. hirsutissimum, C. × Fascinator, C. × Fraseri, and C. × Williamsianum.

Samuel Gratrix, Esq., West Point, Whalley Range (gr. Mr. McLeod), showed a very pretty Cypripedium seedling, named F. S. Roberts, one of the parents being niveum and the other parent unknown; C. × Swinburnei magnificum with flower rather on the small side, and Lycaste Skinneri alba.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), staged a good form of Cypripedium Argus with the spots on the petals very dark and numerous (Award of Merit); C. insigne exquisitum, a distinct and very pretty form with very large blotches on the dorsal sepal (Award of Merit); C. × Lathamianum roseum, C. × L. giganteum, C. × Wallaertianum pallidum and C. × leucorrhodum.

Henry Greenwood, Esq., Highfield, Haslingden (gr. Mr. Spurr), showed Dendrobium × Harold, a cross between D. Findlayanum and Linawianum, which received an Award of Merit.

David Lord, Esq., Daisy Cottage, Stacksteads (gr. Mr. Swallow), showed Cypripedium × Lathamianum giganteum (Award of Merit).

Mr. John Robson, The Downs, Altrincham, showed Cypripedium insigne illustre, C. Boxallii atratum (Cultural Certificate), and C. × Pollettianum, raised from the reverse cross (Award of Merit).

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THE first meeting of the year was held at the Drill Hall, James' Street, Westminster, on January 15th, when the following members of the Orchid Committee were present:—H. J. Veitch, Esq., in the chair, and Messrs. J. O'Brien (Hon. Sec.), H. Ballantine, T. W. Bond, H. J. Chapman, S. Courtauld, De B. Crawshay, J. Douglas, E. Hill, H. Little, T. Statter, and W. H. Young. The exhibits were not numerous, but four awards were made, one of them to a most interesting group of cut flowers, consisting chiefly of winter-blooming Cypripediums, a group of steadily increasing value.

The coloured drawings of the Orchids certificated during 1897 were submitted to the members of the Committee at this meeting, and, being approved of, a resolution was passed to continue the work.

Captain Holford, Westonbirt, Tetbury (gr. Mr. A. Chapman), exhibited a beautiful stand of cut flowers, to which a Silver Banksian Medal was given. It contained about fifty varieties of Cypripedium, some of them in several examples, those most noteworthy being C. × Niobe and C. × N. superbum, a fine series of C. × Leeanum varieties, the handsome C. × Statterianum, a very good C. × radiosum, some fine forms of C. insigne, including the beautiful yellow C. i. citrinum, C. × œnanthum superbum, C. × Sallieri Hyeanum, C. × Pitcherianum Williams' variety, and some beautiful forms of C. Charlesworthii. The group also contained some fine spikes of Lælia autumnalis and several brightly-coloured Selenipediums.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), received an Award of Merit for the fine Lælia anceps, "Crawshay's variety," allied to Amesiana, but distinguished by its broader petals, brighter purple tips to the sepals and petals, and the rich claret-coloured markings on the front and side lobes of the lip.

Frau Ida Brandt, Zurich (gr. Mr. Schlecht), sent cut spikes of Lælia autumnalis and Aërides Vandarum, the latter having been grown in a Cool house.

Isaac Carr, Esq., Poolemeade, Tiverton-on-Avon, showed a good dark form of Cypripedium × apiculatum called Elspeth, and one of C. × Adrastus called Gwendoline.

F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr. Mr. T. Stafford), sent Odontoglossum × Andersonianum, the handsome Cypripedium × Calypso, and a plant of C. insigne Sanderæ. Some doubts about the identity of the latter were expressed last year, but the Committee agreed that it was the true variety.

C. L. N. Ingram. Esq,, Elstead House, Godalming (gr. Mr. Bond), showed a good form of Cypripedium × Schlesingerianum called Magnet (C. insigne Chantinii × C. Boxallii).

F. W. Moore, Esq., Glasnevin, sent cut flowers of the remarkable Masdevallia Schrœderiana.

F. A. Rehder, Esq., The Avenue, Gipsy Hill (gr. Mr. Morris), sent Cypripedium × Rehderianum (C. × Savageanum × C. purpuratum), a pretty hybrid with rose-purple markings on the dorsal sepal.

Messrs. Hugh Low & Co., Clapton Nursery, showed a very pretty group, including some good Odontoglossum crispum, O. Hallii, O. × Andersonianum, a light form of O. × Wilckeanum, Cypripedium × Lathamianum, C. × Bellona, &c. An Award of Merit was given to Cypripedium × F. S. Roberts, a very pretty hybrid, derived from C. niveum and another parent unknown. It approaches C. × Cowleyanum in general character, the flower being white flushed with light rose, lined with rows of light purple dots on the dorsal sepal and petals, and the front of the

lip tinged with light rose-purple. The precise parentage may be ascertained by future experiments.

Messrs. F. Sander & Co., St. Albans, also staged a very pretty group, containing Lælia anceps Dawsoni, L. a. Sanderiana, L. a. Hilliana, and a small dark variety called L. a. atrorubens, some good forms of Cypripedium × Calypso, the beautiful Dendrobium Johnsoniæ, D. × dulce Oakwood variety, Lycaste Skinneri, and a beautiful variety of Cattleya Trianæ called Sanderæ, with pearly white sepals and petals, and the front lobe of the lip rich dark velvety purple, to which an Award of Merit was given.

ORCHID PORTRAITS.

CALANTHE × HARRISII.—*Gard. Mag.*, Jan. 22, p. 49, with fig.

CYPRIPEDIUM LEUCOCHILUM GODSEFFIANUM.—*Garden*, Jan. 15, p. 39, with fig.

LÆLIA AMESIANA CRAWSHAY'S VARIETY.—*Gard. Chron.*, Jan. 22, p. 59. fig. 22. This is a variety of Lælia anceps.

LÆLIA ANCEPS VAR. MRS. DE BARRI CRAWSHAY.—*Journ. of Hort.*, Jan. 20, p. 53, fig. 9.

LÆLIA ANCEPS VIRGINALIS.—*Journ. of Hort.*, Jan. 13, p. 29, fig. 5.

LÆLIO-CATTLEYA × DIGBYANO-TRIANÆ.—*Gard. Chron.*, Jan. 1, pp. 8, 9, fig. 3.

PAPHIOPEDILUM VICTORIA-MARIÆ, Rolfe.—*Bot. Mag.*, t. 7573.

RENANTHERA IMSCHOOTIANA, Rolfe.—*Gard. Chron.*, Jan. 15, p. 40, fig. 17.

SIEVKINGIA REICHENBACHIANA, Rolfe.—*Bot. Mag.*, t. 7576.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

G. D. H. Catasetum Œrstedii and Lycaste leucantha.
W. J. R. Probably undeveloped Odontoglossum crispum.
R. H. M. Many thanks. Flower not yet to hand.
Photographs received with thanks. A. W. H., H. J. R., J. H., F. H. M, A. W. W. W. M. A. and W. P. B. Next month.

ERRATUM.

A slip occurred in the reference on page 13, end of paragraph 1, where the word second should be corrected to third.

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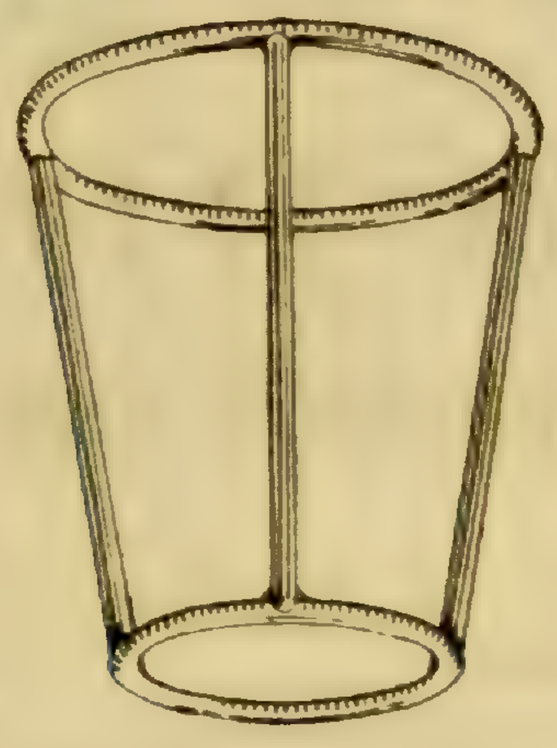

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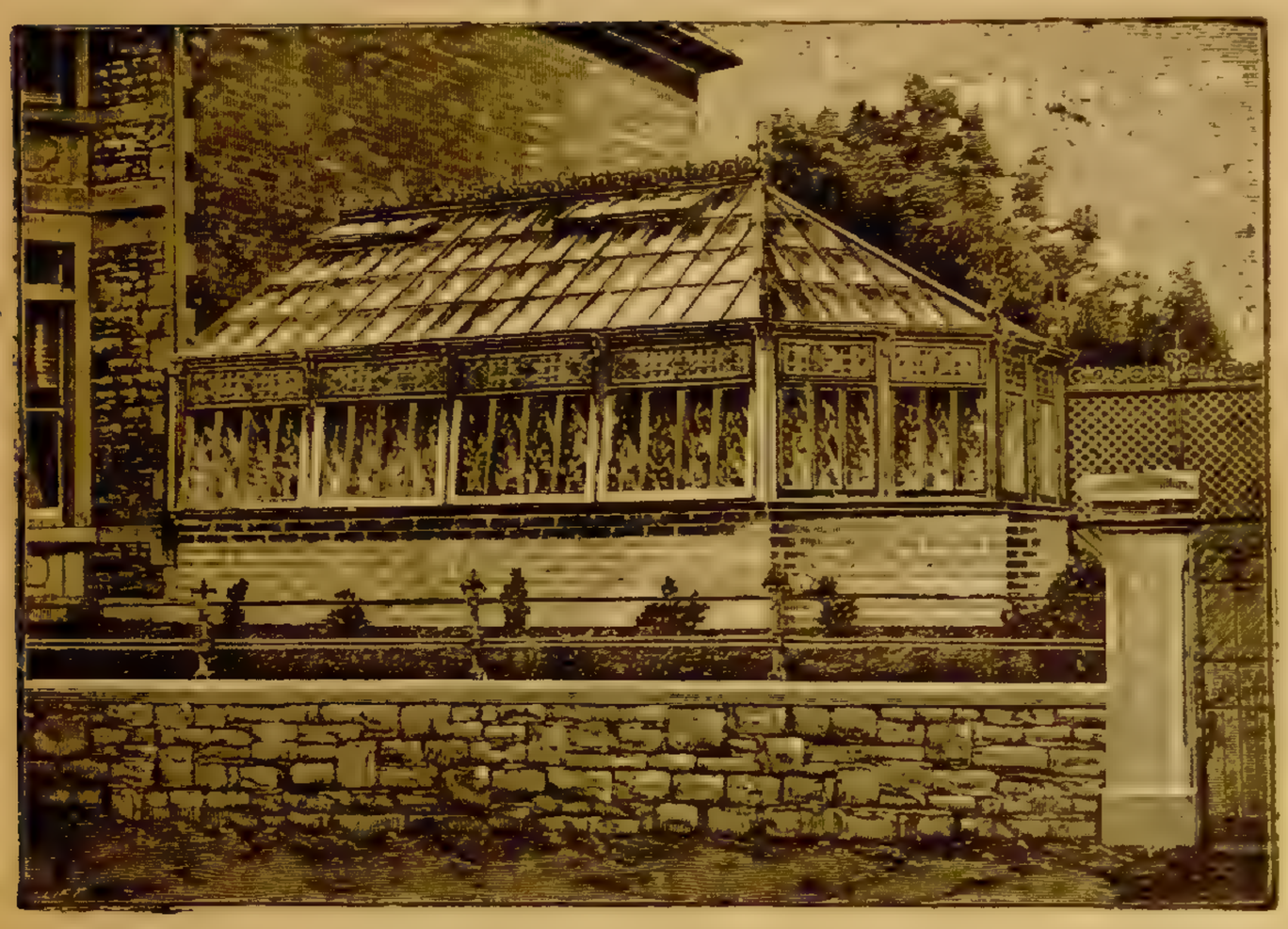

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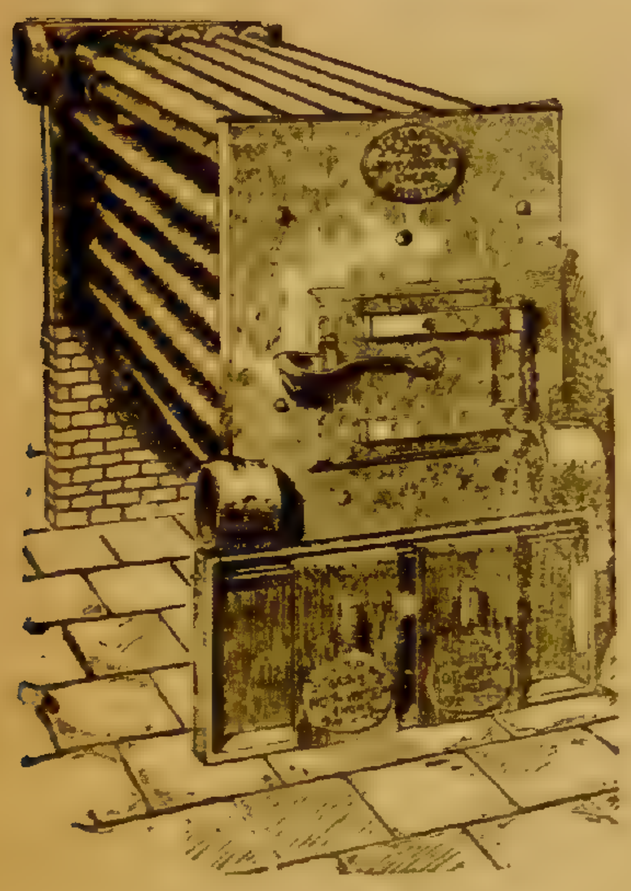

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James' Street, Westminster, during March, on the 8th and 22nd respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will also hold two meetings during the month, on the 10th and 24th, at the Coal Exchange, Manchester. The Orchid Committee meets at noon, and the exhibits are open to inspection an hour later.

We have received from the collection of W. Thompson, Esq., Walton Grange, Stone, through Mr. Stevens, a splendid inflorescence of Cattleya amethystoglossa, bearing seventeen fine flowers, forming quite a bouquet in itself. The plant which produced it must have been very strong, for the peduncle measures exactly half-an-inch in diameter, and thus it is a splendid example of good culture. It gained a First-class Certificate at Manchester for its size and colour.

Equally well developed is an inflorescence of Odontoglossum luteopurpureum hystrix, with eighteen flowers of great size and substance, and the beautiful O. × excellens spectabile, with broad round segments nicely marked on a bright yellow ground.

Some interesting seedlings of Dendrobium nobile are sent by Mr. Stafford from the collection of F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey. They were obtained by crossing D. n. Hardy's variety with the pollen of D. n. Cooksonianum, and though they vary considerably between themselves none of them have the blotch on the petals, as was

the case with a similar cross previously recorded in our pages (iii., p. 168). One is nearly white with a dark lip. The batch should be taken care of awaiting further developments.

A flower of Odontoglossum × elegans comes from the same collection with very narrow acuminate segments, and a good Cattleya Percivaliana with very richly coloured lip, both in the orange tube and in the dark purple-crimson front lobes.

A flower of Cattleya Percivaliana sent from the collection of Richard Ashworth, Esq., Newchurch, near Manchester, has an unusual development of orange yellow on the lip, while the purple blotch in front is correspondingly reduced. A good flower of the type is sent with it.

A fine four-flowered inflorescense of Lælia anceps Williamsii is sent from the collection of W. H. Lumsden, Esq., of Balmeedie, Aberdeenshire, by Mr. Roberts, together with a large well-coloured Cypripedium villosum aureum.

Flowers of Cypripedium Bullenianum and C. Appletonianum are sent from the collection of W. M. Appleton, Esq., of Weston-super-Mare. It is curious how much alike the two are in the flowers, considering that the former is Bornean and has very handsomely tessellated leaves, while the latter is from Siam and has only obsure tessellations. There are, however, certain floral differences.

Flowers of newly-raised seedlings of C. × Harrisianum, C. × Schlesingerianum, and what is thought to be a large C. × radiosum are also sent.

A very handsome form of Lycaste Skinneri is sent from the collection of H. Greenwood, Esq., Haslingden, near Manchester, in which the petals and lip are rich rose-purple, contrasting strongly with the light blush sepals, and thus conforms to the variety roseo-purpurea.

A good form of Cypripedium × Sallieri is sent by Mr. John Robson, of Altrincham, together with the handsome form of C. × euryandrum known as The Duke.

A very pretty spotted form of Odontoglossum crispum is sent from the collection of W. Vanner, Esq., of Chislehurst, by Mr. Robbins, which resembles O. c. Cooksoni rather closely, also Selenipedium × leucorrhodum, and a beautiful light form of S. × pulchellum, the lightest which has appeared, although it is not white.

Flowers of the very rare and pretty Odontoglossum crinitum are sent from the collection of Joseph Broome, Esq., Sunny Hill, Llandudno, which is remarkable for the hairy crest of the lip. A large well-grown flower of Lycaste Skinneri is also enclosed.

We have received a most beautiful inflorescence of Odontoglossum × Wilckeanum from the collection of D. Tod, Esq., Eastwood Park, Giffnock, bearing fourteen large and very richly coloured flowers. Mr. Hutchinson, the gardener, remarks that it was purchased from Messrs. Hugh Low & Co., in 1881, and has increased in size and strength every year. It is extremely beautiful.

Dendrobium × Andromeda is a very charming hybrid sent from the collection of H. H. Bolton, Esq., of Newchurch, Manchester, by Mr. Eastwood. It was obtained from a cross between D. × Leechianum and D. × Cassiope, and has pure white flowers with a very richly coloured blotch on the lip.

A fine flower of Cypripedium callosum is sent from the collection of E. F. Clarke, Esq., of Teignmouth, from a twin-flowered scape; also a good C. insigne sylhetense, and a seedling from the Selly Hill collection, said to be derived from C. × Lathamianum × Spicerianum, but which at present differs but little from the former.

A form of Cypripedium × Carnusianum has now been raised by Messrs. B. S. Williams & Son, of Upper Holloway, the parentage being C. Spicerianum × Haynaldianum. One of the seedlings has recently flowered, and is fairly intermediate in character. The scape is two-flowered.

THE LATE JEAN LINDEN.

The entire number of *La Semaine Horticole* for February 12th is devoted to a Memoir of the late M. Jean Linden, and includes a list of Orchids introduced by him. It is a great pity that this list was not submitted to revision by some competent person, for we find many names that are of no standing whatever. For example, Lueddemannia Pescatorei, Cycnoches Pescatorei, and C. Lindleyi, refer to one and the same species, while C. musciferum is only a synonym of Polycycnis muscifera. Lælio-cattleya Cauwenberghei, L.-c. Lindeni, and L.-c. Sayana, are all forms of the well-known L.-c. × elegans, which appears a fourth time as Lælia Oweniæ. Anguloa is represented by seven names, more than the number of species contained in the genus. Six names appear under Vanilla, four of which we are unable to trace, one is an ancient plant whose identity is still unknown, and the remaining one (V. Phalænopsis)

is originally said to have been sent from the Seychelles by one M. Bernard. Under Cattleya we find such spurious species as C. bogotensis, C. elegantissima, and C. magnifica. Oncidium is represented by eighty-seven names, twelve of which represent unknown plants, two or three others we fail to trace, and three others are enumerated a second time through their synonyms. Many names are mis-spelt. A correct record of the species introduced by M. Linden would have been interesting—we have such an one for the plants collected by him personally, in the *Orchidaceæ Lindenianæ*—but the present list is far from coming up to such a standard.

THE USE OF THE SYRINGE IN ORCHID GROWING.

SOME Orchid growers say that they never use a syringe, others, just the reverse, use it too much, and both may fail to get their plants to grow satisfactorily, but, as is usually the case, the most benefit will be found in practising the happy medium. The uses of the syringe are various, and everything depends on the time of year and the atmospheric conditions outside the houses, but if, instead of generalising, we take one section of Orchids it will give us a better idea of what benefit the use of the syringe to that class is. We will, therefore, take the Odontoglossums, as they usually require more water than most other Orchids. At the beginning of the year very little water will be required, except in frosty weather, when the dry atmosphere caused by fire heat must be moistened by syringing between the pots, under staging, &c. Also, I syringe, or rather, dew over-head Cattleyas that have recently been potted, if they have no young growths to keep them fresh, which I find better than so much root watering.

There is a Sprayer now sold for the purpose of spreading the moisture like dew, and if not done too heavily the effect is more like that of a heavy mist, and that is what Orchids like.

I have had one of these sprayers made in strong copper, knapsack shape—which any strong lad can carry on his back—which has a strong air pump worked by the left hand, and the sprayer is manipulated by the right hand. Having a flexible tube and valve with brass pipe, it can easily be turned any way under the leaves or over, and can be sent like the finest spray or rain by using different nozzles. This article with us has practically done away with the ordinary syringe, except for damping between pots and under stages. We use it after a hot day amongst the Odontoglossums, Cattleyas, and Dendrobiums; just before closing the houses, we give them enough to moisten the leaves without allowing any to run down into the young growths, and the plants seem to fairly revel in it. These are practically the only times when syringing over-head is adopted.

Heavy syringing instead of watering I never do, as there is the uncertainty that plants which require the most water may have to go without, while others that require little or none may get an overdose. The process is too haphazard to be recommended, and often works much mischief. In Orchid growing every individual plant wants its own special attention.

I may say that we use the same sprayer when we have any thrips about. We put some liquid insecticide of a safe strength, and spray right through the house, not giving it so heavy as to allow it to run off on to the roots, but only sufficient to moisten the leaves, and it is astonishing how soon thrips can be eradicated if this is done two or three times during the growing season.

S. S.

[This article has been written, at our request, by one of our most successful growers and exhibitors, who modestly withholds his name. An amateur grower wrote to us pointing out that the widely different views expressed by different people as to the use of the syringe were most perplexing. We tender our best thanks to our esteemed correspondent, who has certainly grasped the underlying principles in his practice. We shall be glad to have the experience of others on this question.—Ed.]

THE RAISING OF RARE ORCHIDS FROM SEED.

The question of raising rare species of Orchids from seed has been mentioned in these pages on several occasions, and the following notes of a discussion on the subject which took place in 1882, besides being interesting in themselves, will show that the question is not by any means a new one.

Speaking of the rarity of certain species of Orchids and the high prices they commanded, Mr. James Douglas advised raising them from seed, and mentioned Cypripedium Spicerianum, C. Stonei platytænium and Cattleya labiata, as plants then worth fifty to one hundred guineas each.—*Gard. Chron.*, 1882, xvii., p. 16.

"H. C., Forest Farm, Windsor Forest," replied with respect to Cypripedium Stonei platytænium that the question had occupied Mr. Day's special attention, but upon the advice of his skilful gardener, he had wisely left it alone, because producing seed was well known to bring distress and sometimes even death to very healthy plants. In Sir Trevor Lawrence's collection, however, at Burford, he had seen this variety bearing a fine seed pod, as a result of crossing with its own pollen, and as Mr. Spyers believed it to be "a monstrosity produced by seed from

the ordinary Stonei," it would be a very anxious time until the flowering of the seedlings, and it would also be interesting to know if any degenerated, and so produced the true form of Stonei (*l.c.*, p. 49).

Mr. Douglas then questioned if producing seed was so very injurious to healthy plants, for it was their nature to bear seed and propagate their species, and he had ripened many seed pods on Cypripediums without injuring them (*l.c.*, p. 82).

"H. C." finally replied that he had the good fortune to spend three years at Tottenham before the dispersal of Mr. Day's collection, during which time he had much to do with seedlings and hybridising, for both Mr. Day and his gardener were enthusiastic hybridists, and that he had seen numerous cases of plants being weakened by seed-bearing (several examples being mentioned). Finally he might give verbatim his present employer's views, who was a great lover of Orchids, and a most thorough hybridist (the late Mr. John C. Bowring):—"I have myself lost numerous plants, including a fine variety of Anguloa eburnea, and a good plant of the rare Cypripedium Fairrieanum" (*l.c.* p. 222).

It would be interesting to know if anything came of the seed-pod of Cypripedium Stonei platytænium above mentioned, also of any further experiments with C. Fairrieanum, which we believe has never been successfully used as the seed parent. The re-introduction of C. Spicerianum and Cattleya labiata has, of course, completely altered the aspect of the question with regard to them, but unless we are much mistaken, seedlings of the former have been raised, though they were supposed to be hybrids until they flowered.

PAPHIOPEDIUM × DEEDMANIANUM.

We have now received from Mr. W. B. Latham, of the Birmingham Botanical Gardens, a flower of this very interesting hybrid, which was figured at page 49 of our last issue, and it quite bears out the remarks then made by Mr. Wills. Considering that P. Chamberlainianum was the pollen parent, it is remarkable how much it resembles that species in character, the shape of the dorsal sepal showing perhaps the most distinct influence of P. Spicerianum. But even here the influence of the other parent is seen, in the white being modified to cream yellow. The green and brown mottling of the petals and base of the dorsal sepal are well shown in the figure, and the colour has already been described. We anticipate that it will develop into a very beautiful plant. It will be seen from an advertisement on another page that the Society has a few plants to dispose of.

CATTLEYA TRIANÆ VARIETIES.

THE popular and variable Cattleya Trianæ has been flowering in all its glory during the month of February, and the following notes are taken from a series of flowers sent by esteemed correspondents, and supplement to some extent the account given in our third volume (pages 114-119), where we attempted to give a classified list of the different varieties which have been described.

A series of six particularly fine forms are sent from the collection of Joseph Broome, Esq., Sunny Hill, Llandudno (gr. Mr. Axtell), whose development and brilliant colour testify to the excellent treatment they receive, on which point Mr. Broome remarks:—"I am an old grower, and superintend myself, and endeavour to impress my gardener with the necessity of intelligent ventilation, watering, heat, moisture, light, &c., or he cannot have large and handsome flowers. Plants will grow and do well for those who cherish them: of that I am sure, and have proved." This is another and better way of putting an old saying that "Orchids know those who treat them well," and certainly nothing could be more eloquent on this point than the flowers now received.

The first is magnificent, both in form and colour. In shape the breadth and undulation of the segments, with their graceful pose, it closely resembles C. T. Arkleana, figured at page 81 of our fourth volume, but the flower is larger and quite different in colour. The sepals and petals are bright rosy mauve, the latter being $3\frac{1}{2}$ inches long by $2\frac{3}{4}$ inches broad. The tube of the lip is rather deeper in colour, and the front lobe of a nearly uniform shade of brilliant amethyst, rather darker in front of the orange-yellow disc, which is reduced to a broad V-shaped band. The flower is also of exceptional substance. We refer it to the variety magnifica. It is not the famed Osmanii, being different in colour, and if the two published plates of that are reliable it is superior in shape.

The second form is larger, the petals being four inches long, but scarcely any broader, and the colour, as also of the sepals, blush-pink, while the lip may be described as typical in shape and colour, but correspondingly large.

A third is practically identical with the variety REINE DES BELGES, mentioned below, but is decidedly larger, the petals measuring $3\frac{3}{4}$ by $2\frac{5}{8}$ inches.

A fourth is remarkable for possessing a narrow white band which extends between the yellow disc and the narrow rosy margin of the side lobes, while the front lobe is bright amethyst. The sepals and petals are light blush. It corresponds pretty closely to the variety ZONATA, described at page 72 of our last volume.

The next is a large, well-formed, blush pink or warm lilac flower, slightly darker on the lip, and corresponds to the variety PENELOPE.

The remaining flower may be described as a large and well-developed form of the type.

From the collection of F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr. Mr. Stafford), comes an excellent example of the beautiful variety ALBA, from a recent importation, together with a second not quite its equal in some respects; also the two following :—

C. T. REINE DES BELGES is characterised by the brilliant cerise-crimson of the front lobe of the lip, which extends round to where the side lobes meet to form the tube. The sepals and petals are bright rosy mauve, the latter measuring 2½ inches broad. Both form and colour are very good.

The remaining one is from another imported piece, and is of excellent form and substance, rather smaller than magnifica, and the lip not of such intensity of colour. It may improve with culture.

From the collection of W. S. M'Millan, Esq., Maghull, Liverpool (gr. Mr. Robertson), comes two good forms; one referred to TRICOLOR, with the front of the lip very deep rich crimson-purple, and separated from the yellow disc by a small interval which is white, like the rest of the flower. The second has a fine feathered blotch at the apex of the petals, and in other respects conforms to BACKHOUSEANA. These should be taken care of.

Mr. John Robson, Altrincham, also sends two very pretty forms, the first belonging to the Dodgsoni type, being a large well-formed white flower, but the lip perhaps not fully developed, and the front lobe of a rosy crimson shade. The second does not conform to anything which we know, the light blush petals being irregularly splashed all over with blush pink markings, and the side lobes of the lip dark, and irregularly marked with rosy purple, while the front lobe is rich amethyst. This may be called var. MARMORATA.

C. T. SHIPWAYÆ is a beautiful lilac-purple variety, of which we have received a flower from the collection of Col. Shipway, of Grove Park, Chiswick. The flower is of nearly uniform tint throughout, with the exception of the yellow throat, though the front of the lip is a little darker than the sepals and petals. The first flower was rather small, but one which has appeared on another plant is far larger, though identical in colour.

Mrs. Hollond, Wonham, Bampton, N. Devon, sends a most beautiful C. T. DELICATA, large, and perfect in shape and colour.

From the collection of John W. Arkle, Esq., West Derby, Liverpool, come several good flowers, including a small C. T. BACKHOUSEANA and a good C. T. SHIPWAYÆ. Mr. Arkle writes that C. T. ARKLEANA (*ante*, iii., p. 103, iv., p. 81, fig. 5) is again in flower, and eclipses everything else in the collection. The variety regalis, since described and figured (*Lindenia*, xii., p. 8, t. 530, fig. 2), is synonymous.

ORCHIDS IN SEASON.

WITH the advent of March we expect to have our first really fine days. It is, in some respects, the beginning of Spring, and this year especially we have been favoured with a very mild winter, a condition of things which is certainly beneficial to Orchids. Our Orchid houses are again assuming their Spring dress, and what a fine display of flowers we already have! The Cool house is gaily decorated with those handsome Cœlogynes and Odontoglossums, and Cymbidiums are rapidly flowering. In the Cattleya house, shining as bright as stars, we find the beautiful Cattleyas Trianæ and Percivaliana, and the brilliant Lælia harpophylla, which contrasts strongly with the green foliage of the plants. The Warm house now gives us entire satisfaction, as those numerous Dendrobes are flowering successively.

It is certainly very pleasant to note the flowers which March brings into our collections. It is during this month that we generally have in flower those pretty Angræcums, A. citratum with its delicate pale yellow blossoms —it is a great pity that this plant presents such difficulties in regard to its culture—A. fastuosum, a dwarf and pretty Madagascar species, and the very rare A. Germinyanum, which will also appear. The genus Phalænopsis also contributes some of our choicest gems, for P. amabilis, P. Aphrodite, P. Schilleriana, and P. Stuartiana are all opening their delicate blossoms. together with P. tetraspis and the rare little P. Parishii. Some late Catasetums are also showing their curious flowers. C. discolor and C. macrocarpum, with their flowers reversed in the same way as Odontoglossum pulchellum, are both interesting.

Cypripediums are always pleasant to see, and the foliage alone of some species would ensure their culture. We have already a beautiful show. Most of them flowered during the preceding month, but as they have the great advantage of remaining in a perfect condition for several weeks, they will also last for a part of this month. A few others are now in bud, including C. × Harrisianum, C. × Swanianum, and C. Mastersianum, which has only recently become at all common. C. concolor is really a pretty little species, but very difficult to cultivate. C. barbatum is very handsome, and, though an old species, is always welcome. C. virens is a curious Bornean species which grows and flowers very freely, and C. Hookeræ is now also in bloom.

March is the best month of the year for Dendrobiums, for we have now combined the winter and spring-flowering ones. Their colours, like the number of varieties, are very numerous, from the brightest purple of D. nobile Sanderianum to the delicate tint of D. Devonianum, besides which we have the golden yellow of D. aggregatum and chrysotoxum. D. Farmeri is well worth growing, and, like D. Hildebrandii, will soon be in

flower. D. Kingianum, in both its rose-coloured and white forms, will remain fresh for another two or three weeks. D. moniliforme is one of the earliest, and is very pretty. D. ochreatum, D. pulchellum (Dalhousianum), D. secundum, and D. transparens are all expected during the month, together with the curious pendulous D. teretifolium.

Diacrum bicornutum will soon show us its beautiful white, scented flowers which last several weeks. Unfortunately this plant is very difficult to grow, but we find that it thrives best in the warmest house, and the nearer the glass the better. Epidendrums are scarcely yet in season, but E. Linkianum and E. Parkinsonianum are two pretty Mexican species which will show us their buds during the month, while E. evectum, with its long bulbs, is nearly open, and will remain in flower for three or four months. E. Wallisii is also open ; Oncidium luridum, too, is sending up its spikes. Eulophiella Elizabethæ, which is, no doubt, one of the most beautiful Orchids of the Warm department, is now sending forth its strong spikes, and when in flower is one of the most charming objects in the house. Miltonia Roezlii and M. Phalænopsis are two handsome species which we must not forget to mention.

Odontoglossums in the Cool-house are now forming the most charming display. The numerous spikes of O. crispum and Pescatorei are associated with O. Edwardii, Hallii, triumphans, cirrhosum, luteopurpureum, and the brilliantly-coloured O. retusum. Amongst Oncidiums several showy species are now sending up their many spikes, chiefly O. sarcodes, the beautiful O. macranthum, serratum, and Lucasianum, some of which are beginning to show their buds. The old Ada aurantiaca is now blooming, and it is really one of the richest coloured species of the Cool-house. Arpophylhum spicatum and medium are showing their spikes, and several Bletias are blooming, B. hyacinthina, the closely allied B. gebina, and B. verucunda, a distinct West Indian species. Cattleya citrina is now sending out its first buds, which will not open till the end of the month.

The handsome Cœlogyne cristata will remain in flower for several weeks ; its varieties alba and Lemoniana generally flower a little later. C. carinata, elata, and speciosa are also blooming and are quite characteristic. Cymbidium Lowianum and C. madidum, a curious Australian species, are now in full bloom, while C. tigrinum is also pushing its spikes, and will most probably be in flower about the middle of the month. Lycaste cruenta is also in bloom, with its fine yellow colour, and L. mesochlæna will soon appear, while the curious Colax jugosus is also out. A few Masdevallias are also in flower, the beautiful M. Chimæra, with its varieties Backhouseana and Wallisii being particularly worthy of mention. Maxillarias, too, are in season, those already in flower being M. aciantha, acutipetala, luteo-alba, meleagris, and ochroleuca, while others are coming forward. The pretty

little Sophronitis cernua is showing its flowers, and close to it we still see the brilliant S. grandiflora. The old Zygopetalum crinitum will soon be out, and will remain good for several weeks if kept in the dry.

Many botanical species will appear during the month, some of which are not generally known, still a few species are worthy of mention, Restrepia pandurata and R. Shuttleworthii, for example, are both pretty little species. Pelexia olivacea with its handsome foliage is both free blooming and easily grown. Certain Erias may also be seen, as E. confusa, E. cristata, and E. flava. Several Pleurothallis are flowering, and a few deserve to be more generally grown, being graceful and very floriferous, as P. gelida and longissima for example. A few species of Stelis are also in bloom, and have the peculiarity of closing their flowers at certain times of the day.

We know perfectly well that several interesting things have been omitted, but we cannot mention everything within the space allotted to us. A more complete account of the numerous hybrids in season might have been included, as, in the aggregate, they hold a very prominent place in collections, but many of them are not yet common enough to be generally cultivated.

ODONTO.

CYPRIPEDIUM × F. S. ROBERTS.

WE have received from Messrs. Hugh Low & Co. the flower of the beautiful Cypripedium × F. S. Roberts, to which an Award of Merit was given by the Royal Horticultural Society on January 15th last. It was mentioned at page 63 that the second parent was doubtful, but Messrs. Low remark that it is suspected to have been C. ciliolare, and this would make the hybrid a variety of C. Aylingii. Unless there is a definite record we should suspect it to have been C. × Curtisii, for so far as we can see on comparison it has all the essential characters, and may be considered a variety of C. × Cowleyanum. The innumerable purple dots extend right to the apex of the petals, and the other characters are equally in agreement. The one other possible combination, C. niveum with C. superbiens, has also been made, resulting in C. × Georgianum, which we believe differs somewhat from the present one. The present variety is very beautiful, both in form and colour, but we must adhere to the practice of keeping all the different seedlings between the same two species under the same name, using a varietal name when necessary. We hope to have the doubtful point about the present plant cleared up as other seedlings flower. We learn that the plant received a First-class Certificate at the meeting of the Manchester Orchid Society on January 15th, a fact which was accidentally omitted from our report.

CYPRIPEDIUM INSIGNE MEASURESIÆ.

THIS is a very beautiful, and at the same a rather mysterious plant, of which we have received a flower from the collection of R. H. Measures, Esq., The Woodlands, Streatham, together with the following note respecting its origin. Mr. Coles, Mr. Measures' gardener, went down to St. Albans, and there saw a small importation of the so-called C. insigne montanum, collected further afield than any previous lot. From these he selected all that he cared to (the small balance is believed to have gone to the United States), and out of them has flowered C. hirsutissimum, some distinct forms of C. insigne, one of them more highly coloured than any seen before, with the leaves mottled like C. Chamberlainianum, but much fainter; others with a twist in the dorsal sepal, certainly like C. × Arthurianum, and last, but not least, the present one. In several respects this flower resembles an albino of C. × Leeanum, especially in the shape of the large white dorsal sepal, reflexed at the sides near the base, while the central part of the base alone is greenish yellow. The petals are greenish yellow, rather broad, and undulate on the upper margin, and the lip greenish yellow, slightly suffused in front with light brown. It is certainly different from any form of insigne which we have seen. Mr. Measures describes it as quite a new departure in the insignes; and in reply to an enquiry whether it could not be an artificial hybrid, perhaps a form of Leeanum, he said it was in the highest degree improbable, for the plants were not potted even, and it was certainly one out of this batch. There remains, however, something to be explained. A natural hybrid Leeanum seems unlikely, for we have no evidence that insigne and Spicerianum grow together. Then if those like Arthurianum are really that hybrid, it would suggest that somewhere the much sought-for C. Fairrieanum grows with C. insigne. C. hirsutissimum we know is Himalayan, but how it came to be an importation of C. insigne we cannot at present explain. We hope to see these doubtful Arthurianums on a future occasion, and should be much obliged for any facts bearing on the question. A Cypripedium exhibited at the last meeting of the Royal Horticultural Society by Mr. Thos. Duck, of Abbey Wood, which is mentioned on another page, has some interest in this connection, for it is said to have been imported with C. insigne montanum, but more resembled a small light-coloured C. × Leeanum. Several possible explanations suggest themselves, but we prefer to leave the whole question for the present. Further evidence will probably be forthcoming another season.

ORCHIDS IN THE LAW COURTS.

Ashworth v. Wells.

In the Court of Appeal on Monday, 14th February, before Lord Justices A. L. Smith, Chitty and Collins, the case of *Ashworth* v. *Wells* again came on for hearing. It was an appeal against the decision of Justices Day and Lawrence, as reported on page 50 of our last issue.

Mr. Russell, Q.C., and Mr. Tipping, instructed by Mr. G. Shorland Ball, were for the plaintiff, and Mr. Lush, instructed by Messrs. Grundy, Kershaw and Co., for the defendant.

Lord Justice A. L. Smith was of opinion that in this case judgment should be entered for the plaintiff for £50, and gave his reasons as follows: There was a sale of Orchids in June, 1895, and it was admitted that the defendant gave a warranty with regard to a certain Orchid which was called "Cattleya Aclandiæ alba, seven bulbs, three leaves—only known plant." It was conceded that a purple Orchid of this class was common, but that a white one was not only extremely rare, but was unknown. Mr. Wells gave a warranty that this was a white Orchid of that class, and that point was conceded. The plaintiff, who was a large Orchid grower, attended the sale, with others, and on the faith of that warranty he bought the Orchid in question, and gave 20 guineas for it. It had been proved that if the plant had been a purple instead of a white Orchid of its class it would have been worth 7s. 6d. Now the first question arising was what was the nature of the warranty which was given in that catalogue. It was conceded by the defendant that the plant was warranted, and the question was, what was warranted? In his opinion the true meaning of that clause in the catalogue relating to this plant was this: that it was a warranty by Mr. Wells that when it flowered it should flower white. There was no warranty that it should flower, or that it should live, but that when it flowered it should flower white. That being, in his judgment, the warranty which was given, what happened was this: Mr. Ashworth bought the plant, and gave 20 guineas for it; he had to wait for what he would call the natural course of events, namely, for this Orchid to flower. It was not suggested by the evidence at the trial that anything out of the natural course of events would cause it to do otherwise than to flower, and in two years it did flower, and then it was found not according to warranty, but had a purple instead of a white flower. Complaint was thereupon made. An action was brought in the County Court, where the limit was £50. The defendant paid in the 20 guineas which the plaintiff paid for the plant, he paid in some small sum besides—he thought a couple of guineas—and he paid also the costs of the plaintiff, and he believed Mr. Russell said also the hearing fee—at any rate he paid some small costs in—but the substantial

part of his case is that he paid the price, the 20 guineas, which Mr. Ashworth paid for the plant, and put his foot down and said "You are not entitled to more." The question was whether in law upon this proved breach of warranty the plaintiff was entitled to any damages besides the 20 guineas? The learned County Court Judge held that he was not entitled to damages outside the 20 guineas. His brethren in the Court below, somewhat differing in their reasons, had sent the case down for a new trial. He was of opinion that, with the materials before them, this case should not go down for a new trial, but that judgment should be entered for the plaintiff for the sum of £50.

Now there was an over-bearing body of evidence given at the trial by Orchid growers who were called, that this white Orchid, if it were a white Orchid, was worth 100 guineas. No one could tell at the sale whether it was a white Orchid or not, except Mr. Wells himself, who was possessed of the plant, and Mr. Wells gave a warranty that it was a white Orchid. The plaintiff had to wait the natural course of events to find out whether the warranty was true, and, when the blossoms came, it was found that the warranty had been broken.

Now what were the damages which the plaintiff was entitled to recover for this breach of warranty? It was said that he was only entitled to recover the damages which he could show at the date when the warranty was delivered and the plant was delivered. In many cases—probably in eighteen out of twenty—it would be so, but in a case like this, in his judgment, the plaintiff was entitled to prove that he suffered damages *ultra*, and to wait until the time arrived at which he could prove, and then only could prove, that the warranty had been broken—at which date he could ascertain the damages which he had incurred. It was said that the damages were 20 guineas and nothing more, and it was said that that was the ruling factor in the case, because this Orchid was bought upon a warranty at auction, and being put up to competition that was the market value of the Orchid. In his judgment for such a plant as this there was no market at all, and no market value at all; and whether or not this auction was any criterion of market value, there being none at all, he very much doubted, seeing that one or two of the witnesses who were called by the plaintiff, who deposed to the fact that this Orchid was worth 100 guineas, when asked whether they attended the auction to buy, said that they did not. Others said they did, and did not bid as regards this Orchid because they did not like it, and did not believe in it. He did not believe himself that the auction price was the ruling factor even if that were material in this case. Now what has the learned Judge found? He has found, "I hold as a fact that if this Orchid had been an actual alba it was, at the time of the sale, worth more than £50." Of course he did not want to go further than

that, because that was the limit of his jurisdiction. Now if the case had stopped there it seemed to him self-evident that the learned Judge ought to have entered upon that finding which he did come to, namely, that at the time of sale it was worth more than £50, judgment for the plaintiff for that amount. But the learned Judge went on, and here he thought he misdirected himself—"But that until it showed its real nature there was no probability that an Orchid grower would give more than 20 guineas for it." But what was the warranty? The warranty was, in his judgment, that when that Orchid bloomed, it should have a white blossom and not a purple one. Very well, what were the damages? It was a mistake to say that what he gave for this plant unbloomed two years before was any criterion of the direct loss which the plaintiff had snstained by reason of the breach of the warranty given, which was that when it did bloom it should bloom white and not purple. For these reasons he thought judgment ought to be entered for the plaintiff for £50, and that this Appeal must be dismissed.

Lord Justice Chitty was of the same opinion. It was admitted that there was a warranty, and so soon as it was ascertained what the warranty was, all difficulty in the case vanished. Now, in his opinion, the warranty was that this was the only known plant, and that if the flower once came forth from these bulbs, or the leaves, it would be white. Now, at the end of two years, the plaintiff had ascertained that in the course of nature the plant produced a purple and not a white flower. This was a warranty in regard to a future event, and it seemed to him to be an error to try and apply the principle which is the one applicable in ordinary cases, of a sale on the market. This being a special warranty, he thought, the plaintiff had shown a special damage, that instead of getting that which he contracted for on the warranty, he had got an inferior article.

When the evidence was properly examined for the purposes of the question of law, it was shown that the witnesses called, of whom there were many, did not bid in opposition to the plaintiff, and the reason why they did not bid was explained by them—that they had no faith in the warranty, they had an opinion about it, and that though Mr. Wells, the defendant, considered this unknown thing a white Cattleya, it would never prove to be such. The plaintiff, on the other hand, relied, as he was entitled to do, upon the warranty. He thought that the finding of the County Court Judge practically disposed of the question, but he agreed that there was some difficulty caused by the words which followed. "But until it showed its real nature there was no probability that an Orchid grower would give more than 20 guineas for it." He thought that was a rider added to that which he had already found, and that he was there pointing to the fact that no more than 20 guineas was obtained at that particular auction. He thought it would be right, in

assessing the damages, to take into consideration the uncertainty whether the bulb would ever flower at all, but in this case the plaintiff was well within his right and, according to the warranty, as he understood it, he was justified in waiting until that which was uncertain was proved to be certain. In fact, he never could have sued, in his opinion, with any chance of success on this warranty until the fact was ascertained that it turned out to be purple and not white. For these reasons he agreed in the judgment which had been delivered by his learned brother.

Lord Justice Collins agreed in the main with what had fallen from his learned brethren, but had some misgivings as to whether the learned County Court Judge had made any mistake in this matter. It must be remembered that on questions of fact the decision of the learned Judge was final, and they had no right to review it, therefore unless one was satisfied that he had arrived at his finding of fact through the medium of a misdirection or a misconception of the law, he thought they had no right to question him, and he was not altogether free from doubt himself as to whether the learned Judge did not in point of fact direct himself properly. He quite agreed that the warranty here was that this plant if it flowered should produce a white flower, and it seemed to him the principle of law on which the damages were to be assessed on a breach of such a warranty was clear enough. He agreed it was possible that the first part of the paragraph in which the learned Judge gave his opinion was that which he acted upon—the possible market price for it was the only part that he could act upon, namely this "I hold as a fact that if this Orchid had been an actual alba it was at the time of sale worth more than £50." He rather took the succeeding part—"But that until it showed its real nature there was no probability that an Orchid grower would give more than 20 guineas for it,"—as qualifying that. He thought if there was a difference between those two articles—the article with the possibility and the article with the certainty—it was for the learned Judge on the evidence to assess the difference between the two, and he was not satisfied he had done more than that in this case. If he had done no more he did not think they could interfere with the decision. At the same time he was not sufficiently clear, particularly in view of his brothers' opinion on the matter, that he had distinguished those two possible views, and he was satisfied on the evidence, if he had been at liberty to go into it, that in giving £50 to the plaintiff they were not really giving him more than he himself should have given him on the evidence. Therefore he thought no injustice was done, and he did not differ from the decision of his brothers in the matter.

The Appeal was therefore dismissed, judgment being given for the plaintiff for £50, with the costs here, and of the Court below, together with the costs of the trial.

DENDROBIUM HARVEYANUM.

THE beautiful Dendrobium Harveyanum, represented in our present illustration, is one of the rarest and most remarkable species in cultivation, and presents the unique feature of having the petals broadly fringed with branching filaments, much like those found upon the lip of D. Brymerianum. The lip, too, is fringed, but not to anything like the extent seen in the petals. The species is a native of Burma, and was introduced by the Liverpool Horticultural Co., and flowered for the first time in Europe in the collection of the late Enoch Harvey, Esq., of Aigburth, Liverpool, in 1883, when it was described by Reichenbach (*Gard. Chron.*, 1883, xix., p. 624) as a very fine surprise, which recalled D. capillipes in habit, with a dash of

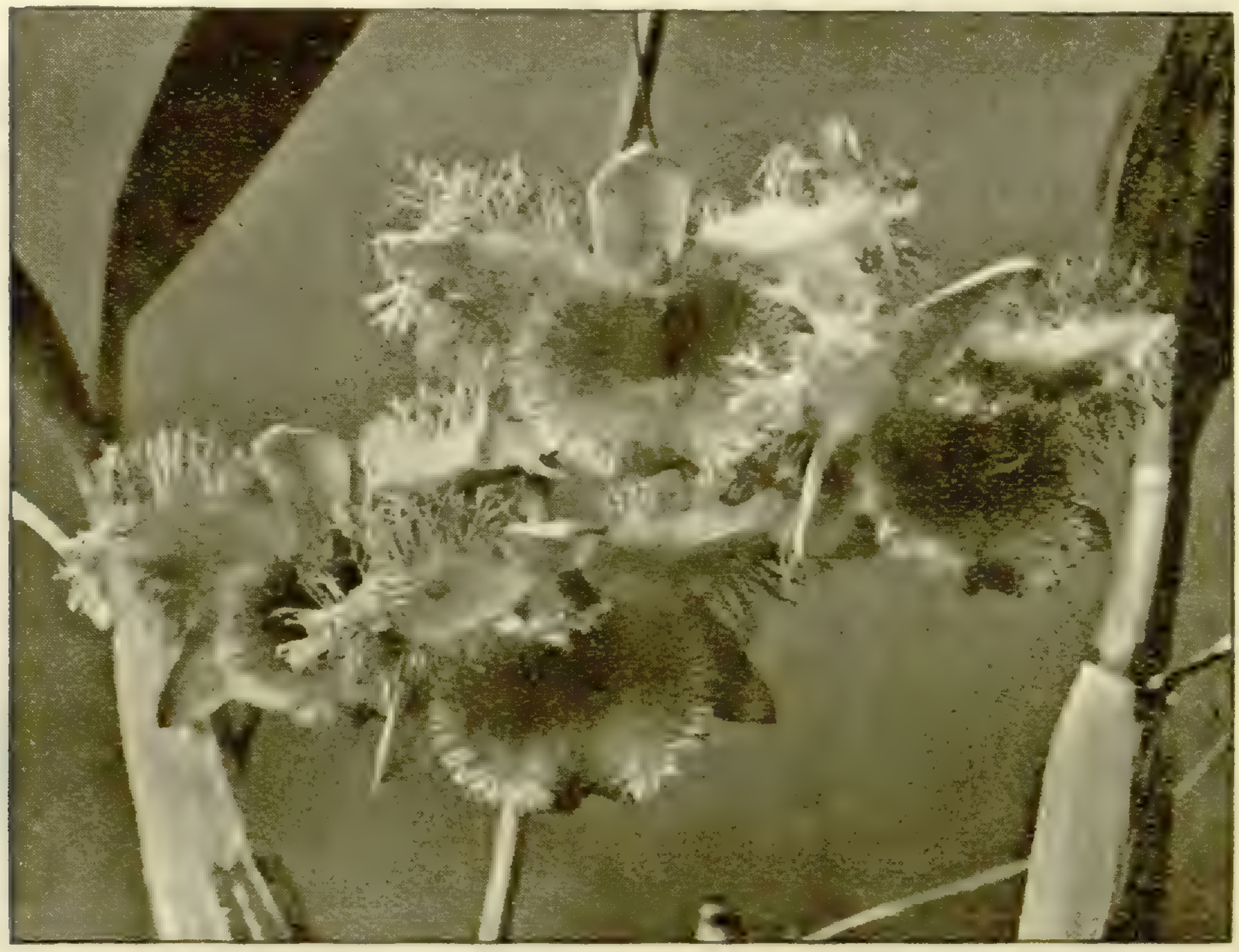

Fig. 3. DENDROBIUM HARVEYANUM.

D. Brymerianum in the lip, and gloriously fringed petals, which at first made him think of some peloria, though the lip and column being normal suggested its being a good species, and such, indeed, it has proved. The pseudobulbs are fusiform in shape, and three to six inches long, and the leaves (partly shown in our figure) are half as long as the bulbs, or longer, for Reichenbach afterwards described them as six inches long. The racemes are short, and bear from three to eight flowers: the latter number we have seen in a specimen from Baron Schröder's collection. The colour of the flowers is very deep yellow, without any markings, and their shape is well shown in the above figure. It belongs to the section Holochrysa,

but it is not easy to say which is its nearest ally. It has been suggested that it probably originated as a sport or abnormal form, perhaps from D. Brymerianum, but we fail to see any evidence of this. The fringes suggest an affinity with the latter, but the habit and bracts are very different. The resemblance to D. capillipes is confined chiefly to habit, besides which it is much more robust, more racemose, and has larger flowers. In the bracts it closely resembles D. fimbriatum, as well as in the character of the lip, and although that has much longer bulbs, it is probably more nearly related to D. Harveyanum than those previously mentioned. Our figure is reproduced from a photograph of a plant in the collection of the Rev. F. D. Horner, Lowfields, Burton-in-Lonsdale, kindly sent through Mr. Eichel, of Bradford. So far as we know, the plant has only once previously been figured, in the *Gardeners' Chronicle* (1894, xvi., p. 593, fig. 76), we believe, from the self-same photograph, though the engraver has not reproduced the fringes accurately. The present illustration is an absolute *fac-simile* of the photograph, absolutely untouched by hand, and shows well the remarkable character of the flowers. The lower part of the photograph was omitted, and it will give an idea of the size of the pseudobulbs when we state that from the lower part of our figure to the base of the plant is exactly $2\frac{3}{4}$ inches. The line up the centre of the illustration is one of the wires by which the basket was suspended. The peduncle arises from the back of the left-hand pseudobulb, and may be seen below the lip of the left-hand flower. As regards culture, it is only necessary to add that the plant succeeds under the same treatment as other Burmese species of the same section of the genus.

THE MANURING OF ORCHIDS.

If any proof is necessary that these so-called "Air plants" require something more than the normal constituents of the atmosphere for their continued existence it is surely furnished in the reports which have appeared in your colums of the analysis of Cattleya flowers, and the development of aërial roots when the conditions are favourable is further evidence in the same direction.

Mr. Wrigley's communications on the use of a soot and lime mixture are especially interesting, and point to a cheap and apparently effective means of supplying at least the nitrogenous element, but it will be apparent to those who are acquainted with the volatile character of ammonia that in mixing the ingredients with water and leaving them for days prior to use, only covered with a cloth (presumably outside the houses), he is wasting the greater part of this food.

With the object of testing this matter the following series of experiments were instituted. A definite quantity of a mixture of equal parts of ordinary soot and calcium hydrate (slaked lime) was placed in three test tubes, each covered with a glass slip, to the under side of which adhered a moistened piece of red litmus paper. The paper was changed every morning and its condition carefully noted.

No. I. tube contained the dry mixture.

No. II. the soot and lime wetted to the consistency of paste.

No. III. had four times as much water added.

The paper in No. I. was practically unaffected during the fortnight covered by the tests, and probably if moisture had been altogether absent it would have been completely so.

The time required for the litmus paper in Nos. II. and III. to entirely change to a blue colour, indicating the presence of the gas, varied from about two minutes from the commencement of the experiments, to half an hour and an hour respectively at the end, showing that a gradual but diminishing quantity was given off each day.

The temperature of the room was about 63 degrees throughout, but it is probable that in greater heat, such as is maintained in a stove house, the gas would have been more rapidly but less lastingly evolved.

A curious point observed afterwards, when water was mixed with No. 1, was that the paper *in a few seconds* showed the presence of the alkali, indicating that the properties of the mixture were not merely dormant but increasingly active.

I gather from these experiments that the dry mixture of soot and lime preserves its power of giving off ammonia, when wetted, for a considerable period, and that this evolution is extended in a decreasing amount over several days. I intend during the coming growing season to give the use of it a trial in my small general collection, by spreading the dry mixture on the cinder-covered stages, and leaving the usual "damping down" to supply the requisite moisture.

Liverpool. F. H. MOORE.

This experiment is very instructive. We have long thought that mixing the ingredients in a tub with water was unnecessary labour, as these might be mixed dry, and a handful sprinkled occasionally over the cinders when damping down, and the moisture of the house would do the rest. The waste of the gas affords an additional argument. Do not overdo it by using too much. A little and often is probably a safe rule to follow, and the season when it is likely to do most good is when active growth is taking place.—ED.]

WHO DISCOVERED ODONTOGLOSSUM CRISPUM?

It has recently been stated that the late M. J. Linden was the joint discoverer with Hartweg of our popular Odontoglossum crispum, but in your Obituary notice of the former at page 43, you make no mention of the circumstance, and as it does not accord with the early records it would be interesting to know what are the real facts of the case.

J. C.

We knew of the story, which was only omitted because after considerable trouble we failed to verify it. So far as we have been been able to ascertain, it originated in 1885, in the *Lindenia* (vol. I, page 102), as follows:—"L'Odontoglossum crispum fut découvert in 1842, simultanément par Hartweg et J. Linden dans la Nouvelle Grenade, pres des villages de Pacho et de Zipaquira dans la province de Bogota. Ces deux voyageurs se trouvèrant dans ces parages en même temps," &c. This plant, however, is not included in the *Orchidaceæ Lindenianæ*, nor is it mentioned by M. Linden in the account of his travels, written by himself, and published in 1846 (*Ann. de Soc. Roy. d'Agr. et de Bot. de Gand*, ii, pp. 205-220, 259-272), together with a table showing the total number of species of plants collected, arranged under ten different geographical headings. This table gives the total number of Orchids collected as 183, of which seven were collected at Bogota. And their names may be ascertained from the *Orchidaceæ Lindenianæ*, as follows:—"Pleurothallis bogotensis, P. chloroleuca, Restrepia maculata, Masdevallia coriacea, M. cucullata, Epidendrum torquatum, and Schomburgkia undulata." Neither is there any evidence, either in the account just mentioned or in that written by Hartweg, respecting his own travels, that the travellers met. The latter states that he arrived at Bogota on January 1st, 1843, after a fatiguing journey, and after leaving there he goes on to say:—"On my journey to Zypaquira, and from thence to Pacho, I observed Odontoglossum crispum, having a spike two and a half feet in length, and producing from twenty to twenty-seven large white flowers, with a pinkish hue on the outside of the sepals, and orange spots on the lip." (Hartweg in *Trans. Hort. Soc.*, ser. 2, iii, p. 160). Specimens were secured for drying, and from the list of species introduced (*id.*, p. 162), we gather that living plants also were sent home, though in the absence of any later information, we may infer that they died without flowering. How much of fact there is in the story of the joint discovery, or the joint excursion, in 1841, as it has recently been put, may be inferred from the further record that four days after Hartweg arrived at Bogota (January 5th, 1843), Linden was encamped far away on the majestic peak of Tolima (on the Central Cordillera), at an altitude of 15,000 feet. That Linden himself made no claim to be the discoverer

of this Orchid is evident from the fact that in 1878, when he was actively directing the *Illustration Horticole*, a remark by M. André appeared about "les echantillons récoltés par Hartweg à Cipaquira et Pacho, au nord de Bogota."—(*Ill. Hort.*, xxv., p. 137, t, 325).

As to the first successful introduction of the species, we need only remark that in 1863 the collectors Weir, Blunt, and Schlim, were sent to New Granada, respectively by the Horticultural Society of London, Messrs. Hugh Low & Co., and M. Linden, and that the three collectors named all found themselves sailing for the same destination, in the same steamer, and on the same errand. All succeeded in sending home living plants, the first to flower in Europe being one in the collection of Mr. John Day, at Tottenham, which had been collected by Blunt near Pacho.

The question having been raised, we think it right to call attention to the records, which, so far as we can ascertain, show that Hartweg alone was the discoverer of this popular garden Orchid, and afford no confirmation of the version given over forty years after the event took place.

CYPRIPEDIUM × WATSONIANUM.

Cypripedium × Watsonianum, a hybrid between C. × Harrisianum ♀ and C. concolor ♂, which was described at page 244 of our first volume, has just flowered in the collection of R. H. Measures, Esq., The Woodlands, Streatham. Mr. Measures writes that it has developed into a great beauty, perfect in shape, and of a glowing, brilliant colour, something like the bloom on a ripe plum, which changes as the spectator moves his position.

Mr. Measures also sends an interesting note respecting richness of colour in hybrid Cypripediums. C. × Paris he considers must be placed first, while C. × William Lloyd is the darkest in this class. Both have been described and figured in our pages. C. × Paris (vol. i., pp. 87, 88, fig. 6, see also p. 288) is said to have originated from C. bellatulum ♀ and C. Stonei ♂, though there is little evidence of the latter, and C. callosum has been suggested as the other parent. The fact is the raiser is not certainly known, but it may have been the late Mr. Hall. C. × William Lloyd (vol. iii., p. 177, fig. 7) was derived from C. bellatulum ♀ and C. × Swanianum ♂, and several plants are in existence which are not all exactly alike. The trio is certainly a very brilliant one, and we anticipate a considerable advance in the hybrids of this particular class within the next few years. If the vigorous constitution and floriferousness of some of our hybrid Cypripediums can be successfully combined with the richness of colouring which is gradually being developed in others, a race of plants of the highest decorative value will result, and we believe that it is only a question of time and perseverance.

HYBRIDISING DENDROBIUMS.

Mr. F. H. Moore's lettter in your February issue (page 52) is very interesting, and I am sure that some of your readers would be very glad to have him use a little more of the space in your pages that he seemed so reluctant to encroach upon. Often I have tried to get seed pods upon my Dendrobiums, sometimes aiming for hybrids, and at other times aiming to get seedlings of unmixed character, believing, as he suggests, that stronger, healthier plants for the greenhouse might be obtained in that way. But I have never yet obtained, with my Dendrobiums, more than what he calls a "half success," and I would like to ask him whether, from his experiments, he can give any suggestions upon the following points or questions :—

Does he find any one part of the day a preferable time for making the pollinations? The odour of many Orchid flowers coming and going with certain times of the day, must certainly indicate a change of state in these kinds, and probably also the best time for the pollination; but this guide (?) does not show in all flowers. Again, Has he found any difference in the success of the pollinations resulting from the kind of day, whether a clear and bright day, or one somewhat cloudy? Further, Can he give any suggestions as to the amount of pollen to be used? I have thought that the pollen from two or three flowers, if applied to the stigma of one, would be likely to increase the number of good seeds in the pod.

If Mr. Moore could also give us some hints as to determining the proper age of the pollen and the flower to be fertilised, suggestions that would help us to recognise that the flowers are ripe, that, too, would be very acceptable.

Chicago. F. J. Le Moyne.

CALENDAR OF OPERATIONS FOR MARCH.

By H. A. Burberry.

The temperatures for the month should be somewhere near the following figures :—

Cool House :—Day, about 60°; night, 50° to 55°.

Intermediate House :—Day, about 65°; night, 55° to 60°.

East Indian House :—Day, about 70°; night, 60° to 65°.

The temperatures quoted above are for fire heat alone. During sunny weather, a rise of the thermometer will necessarily follow, which will in all cases be beneficial to the plants, supposing there be but little fire heat at the same time.

If the sun should make its appearance suddenly during mid-day, when the hot-water pipes are already sufficiently heated to maintain the requisite

degree of warmth, it is better to make use of the roller blinds rather than to allow the temperature to become overheated, or to try to reduce the same by putting on an over-abundance of top air.

Ventilating by means of the top lights is accompanied by a considerable amount of risk during this and the following month, and if indulged in, it should be done most sparingly, otherwise the cold draughts resulting are the means of checking tender growths, and the atmospheric moisture is too rapidly transformed. There is nothing like admitting air at the bottom ventilators, I mean by box-like contrivances let in through the walls opposite the hot water pipes. The atmosphere is thus kept pure and sweet, and in a more uniformly moist and growing condition.

Damping down between the pots and all other spaces available may now be done two, or even three times daily, just in accordance with the conditions prevailing outside. Orchids can be, and often are, injured and sometimes killed outright by over-saturation of the compost in which they grow. But never are they injured by the moisture arising from the evaporation of water distributed on the stages, floors, walls, &c. They grow not so much upon the water given them at the root, as upon that which they derive from the atmosphere. If, therefore, the latter contains plenty of moisture, and is at the same time freely but judiciously charged with fresh air let in from the outside, and principally through the bottom ventilators, which contain their food supply, and from which they draw all that is necessary for their well being, then, and then only, is the foundation laid upon which to build future success.

Speaking of moisture, don't let me be misunderstood. Steam, I suppose, is moisture, but this I deprecate to the fullest extent. No matter how it is caused, whether by water coming in contact with the hot water pipes, or by a hot pipe running through the soft water tank, or by any other means; I am confident it is no good to the plants, but on the other hand is frequently the forerunner of "spot" in its many forms. For this reason I am not quite so partial to evaporating troughs as I used to be, and though I am not in a position to condemn them, so far as Orchids are concerned, yet I will advise that they be not used over abundantly.

Work in re-potting commences now in earnest. Take, for instance, the Mexican Lælias. The first and foremost among these is L. anceps and its numerous varieties. They should be taken in hand, and after being overhauled and well cleansed from all traces of that particular scale to which they are liable, should be re-potted. Take care to perform this operation in a thorough and workman like manner, so that it does not again become necessary to disturb their roots for at least three years. If the plant is a large one, the several pieces forming it should be placed together skilfully, so as to make a neat handsome specimen that will take up the least amount

of room. A plant of Lælia anceps with about three leads may sometimes be seen occupying an enormous basket about 12 inches square, which, it is needless to say, is a shocking waste of house room. If the creeping rhizome has become too long, let it be severed, leaving five or six pseudobulbs to support the lead. The back pseudobulbs taken away will break again, and should be placed in with the plant; by these means a greater number of leading bulbs are being constantly added. Do not half bury the pseudobulbs, but let the rhizome from the oldest to the newest bulb be on a level with the compost. If buried, the eyes, which are dormant, soon decay.

Lælia anceps Sanderiana and L. a. Schrœderiana, when seen in all their beauty, are Orchids not easily eclipsed. They must, however, be strong to bloom well. The primary points of cultivation to bear in mind are: Do not allow them to ramble over the side of the pot or basket into space for more than one season's growth, and give them during summer the full sun, plenty of water, and an abundance of air. Should there not be a Mexican house set apart for the sun-loving kinds, Lælia anceps and its varieties are then better if grown in baskets or pans, so that they may be suspended near the roof of the Cattleya House. If however there be a house unshaded to accommodate these, together with a few other sun-loving Orchids, then they are better if in pots on lattice-wood stages.

Lælia autumnalis, L. albida, L. furfuracea, and L. Eyermaniana, all most useful species when well grown, greatly enjoy the sun, heat, and a corresponding amount of air and moisture, but at the same time will not withstand so much direct sunshine as is so enjoyable to the afore-named species. These four beautiful kinds should therefore be partially shaded from its direct rays in summer. Conditions similar to that of the ordinary Cattleya house is, I find, best adapted to them. The roots are now pushing forth, and the necessary re-potting or top-dressing should be done. These short-bulbed Lælias are surface rooting kinds, and a great depth of compost, however good and fibrous it may be, becomes not only unnecessary but positively distasteful to them. During the summer they delight in water in large quantities, on the condition that it passes away again freely. To use a well-known phrase, "it should run through like a sieve." To pot shallow, say the compost to be only an inch in depth, and at the same time to secure each portion of the plant firmly, is a little difficult of accomplishment. But firm in position the plant must be, or it can never grow well. Patience and practice, with the aid of a few small sticks and pegs, soon overcome this difficulty.

Lælia majalis is frequently grown on blocks or rafts of wood suspended in the Mexican house. I find this system does very well for a few years, but as a rule block culture results in deterioration. To keep this species in continual good health it is best to grow it in small pans, or baskets, with

just enough peat and sphagnum moss about its roots to steady and secure it in position. Give liberal supplies of water when growing. It is rather a shy blooming species and rarely does so until the bulbs have attained their maximum size, even then they are apt to disappoint. It is well to keep them on the dry side until the new growths are an inch or two high, as the flower spikes grow simultaneously. It is quite useless, however, to withhold water too long, for if the flower spike is not formed in the new growths during its early stages, no amount of drought will cause it to appear afterwards. It is easy to tell a flowering growth early in the season—say about April or the commencement of May—by its swollen appearance. After this date all should be liberally treated with water in order to encourage the making of fine large pseudobulbs.

Thunias should be repotted this month. Loose compost to root in, shade, and strong heat to grow in, promotes long, lanky, vigorous growths and scarcity of flowers. On the other hand firm potting in a compost of peat, loam, and silver sand, plenty of sunshine, and an intermediate temperature, are conducive to short, stout pseudobulbs and free blooming. About four strong pseudobulbs to a 32-sized pot makes nice, graceful and useful plants from a decorative standpoint.

Oncidium tigrinum and O. unguiculatum are beautiful species when well grown and flowered. They grow readily enough in the Cool house under precisely the same treatment as that accorded to Odontoglossum crispum. But from a flowering point of view they both are apt occasionally to disappoint the grower, as they cannot be relied upon to flower with anything approaching regularity every year. The very largest and finest pseudobulbs will sometimes fail to produce a spike, whilst on the other hand a tiny insignificant one may do so. In the latter case it should not be allowed to bloom, but pinched off as soon as it appears, for there is but little use or beauty in a weakly spike bearing only two or three half developed flowers. It is better that what energies the plant possesses should be reserved, so that it may make a larger pseudobulb the following year. In the former case nothing can be done to force the strong plant to bloom when it has decided not to do so. It is satisfaction, however, to see the fine unflowering growth develop into a grand pseudobulb of a large size: the plant itself is then a refreshing sight. And there is consolation in knowing that from a plant of such strength the chances are greatly in favour of an enormous flower spike appearing from the following growth, particularly so if during the winter, when inactive, the plant has had a good rest on the dry side. O. tigrinum sends up its spike from the side of the new growth when the latter is about half matured, and usually blooms in November or December, whilst O. unguiculatum is a month or two later in showing its spike, and consequently a corresponding period

later in blooming. Where repotting is necessaay take them in hand immediately the new growth is seen breaking from the base. Pot firmly in good fibrous peat and sphagnum moss, and always keep them confined to comparatively small pots.

Cœlogynes, having had a thorough resting throughout the winter, will now be commencing root action. In cases where larger sized pans or baskets are desired, or divisions of the bulk are contemplated, this is a good time to set about it, before the roots are too active and far advanced. Cœlogyne cristata has, of course, already flowered, or is in the act of doing so. The majority, however, have yet to flower, which fact need not deter the repotting operation. C. cristata, as is well known, bears a distinct flower-producing scape; but with most kinds this is not the case, the spike coming from the centre of the new growth, which, after blooming, continues to grow and ultimately forms the pseudobulb. In all such cases, if repotting is delayed until after blooming, a great check is the result, for the simple reason that the plant is then in the very middle of its activity. Shallow pans or baskets are to be preferred for Cœlogynes, and the usual peat and sphagnum moss is the best compost. These also should be confined to proportionately small receptacles. And all are fond of copious supplies of moisture when growing. As a general rule, I find the Cattleya, or what is better still, the Mexican house, the most suitable place in which to grow Cœlogynes. There are, of course, exceptions, for instance, C. Parishii—a charming little species, producing its flower scape from the apex of the new bulb when fully completed—together with C. pandurata, another species like C. cristata, where the spikes appear from the base, and a few others, such as C. Dayana and C. asperata, may, perhaps, be found to do better in the hottest house, whilst there are a few that will do very well in the coolest house. C. barbata is one of the latter.

On every hand there will be seen plants, here and there, ready for the potting shed; a few more Dendrobiums, Cattleyas, Cypripediums, Selenipediums, &c., may be selected as being fit, and at a proper stage for turning out. The dividing, or propagating, of Cypripediums and Selenipediums, may be done at this season with greater chances of their quickly becoming well rooted and re-established in their new pots. The roots of these genera strike deep into the compost. It is unwise, therefore, to over-fill the pots with drainage. For small pots a few crocks at the bottom are ample, the remaining part should be filled up with the compost mentioned last month, and pressed in rather firmly.

Then again, there are members belonging to the genera Catasetum and Mormodes starting away to grow. I find these species, to grow them well for any length of time, must necessarily have the warmth of

the hottest department during the growing season, and at no time will they stand the low temperature of the Cool house. They must also be kept very sweet at the roots by supplying fresh material every year. They must be grown in pans or baskets—which should be proportionately small—suspended, and but very little water must be supplied during the early stages of growth, or the new breaks soon damp off.

The "short-borer" beetle, which commits such ravages amongst the Dendrobiums, has again been introduced into several collections. I recently saw a lot of Dendrobiums in a sorry plight indeed. The beetle had been at work amongst them stealthily, I should say, for some considerable time. At any rate, by the time it was observed irreparable damage had been done. Beautiful plants of Dendrobium, that a few weeks previously looked the pink of condition, are represented now by a few pseudobulbs sticking up here and there, looking isolated and miserable enough—the remainder have been cut away. If not noticed in time, the region of the pseudobulb attacked soon decays and is rendered useless, but if seen in time a spot of paraffin dropped into the hole often brings out the beetle and stops further mischief.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

At the meeting of this Society, held at the Coal Exchange, Manchester, on February 10th, 1898, there was a magnificent display of good things, we think the best the Society have yet succeeded in bringing together, no less than seventy-eight plants being separately entered to be brought before the Committee. The members present were—Messrs. Thompson (in the chair), Backhouse, Bolton, Cypher, Gratrix, Greenwood, Johnson, Leemann, Schofield, Stevens, Weathers, and Gent (Hon. Sec.). Some two hours were occupied in adjudicating upon the plants, and the Committee granted seventeen First-class Certificates, thirty Awards of Merit, and two Cultural Certificates.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), staged Odontoglossum crispum candidissimum, O. × excellens spectabile, O. nebulosum candidulum, and Cattleya amethystoglossa. These plants formed a beautiful group of wonderfully well-grown plants, besides being exceptional in quality, and each obtained a First-class Certificate.

G. Shorland Ball, Esq., Ashford, Wilmslow (gr. Mr. Hay), showed Cattleya Trianæ alba (First-class Certificate), Dendrobium Wardianum album (Award of Merit), and D. W. ochroleucum (First-class Certificate). The latter is a distinct albino, with pure white sepals and petals, and pure

white lip with yellow throat, and no vestige of the dark eyes seen in the type. This exhibitor also staged a fine plant of the sweet-scented and interesting Platyclinis glumacea, with over two dozen spikes.

G. W. Law-Schofield, Esq., New Hall Hey, Rawtenstall (gr. Mr. Shill), showed a very distinct and pretty Cypripedium called C. × G W. Law-Schofield, of unknown parentage (First-class Certificate), C. × Lathamianum giganteum (Award of Merit), Dendrobium × Juno (Award of Merit), and D. × xanthocentrum (First-class Certificate).

D. B. Rappart, Esq., Liscard, Cheshire (gr. Mr. Nicholson), showed Dendrobium × Schneiderianum.

Thomas Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), showed Cypripedium villosum giganteum (First-class Certificate), with immense flowers, C. × Calypso, Dendrobium × splendidissimum grandiflorum, a very fine form (Award of Merit), D. × s. giganteum (Award of Merit), the beautiful D. nobile Amesiæ (First-class Certificate), and D. × Schneiderianum (Award of Merit).

J. Leemann, Esq., West Bank House, Heaton Mersey (gr. Mr. Edge), staged Lælia anceps Stella (Award of Merit), L. a. Williamsii (Award of Merit), Cattleya Trianæ alba (Award of Merit), Dendrobium Wardianum, D. nobile Sanderianum (First-class Certificate and Cultural Certificate), D. n. Ballianum (Award of Merit), D. × Cassiope, D. × splendidissimum Leeanum, Odontoglossum × Andersonianum (Award of Merit), Cypripedium Haynaldianum (Cultural Certificate), and C. × Winnianum.

H. Greenwood, Esq., Highfield, Haslingden (gr. Mr. Spurr), exhibited Dendrobium × Schneiderianum.

S. Gratrix, Esq., West Point, Whalley Range (gr. Mr. McLeod), showed Dendrobium × Ashworthii Edithæ, D. × euosmum leucopterum (Award of Merit), Cypripedium × Lathamianum signatum, derived from C. Spicerianum magnificum, crossed with C. villosum aureum (Award of Merit), and C. × Prewettii (Award of Merit).

Mr. William Bolton, Warrington (gr. Mr. Cain), showed Dendrobium Wardianum candidum (First-class Certificate), Cattleya Trianæ (First-class Certificate), C. T. alba, C. labiata Boltoni (Award of Merit), and Dendrobium × Ainsworthii Robinsonianum (Award of Merit).

T. W. Swinburne, Esq., Corndean Hall, Winchcombe, Cheltenham (gr. Mr. Rendall), showed Cypripedium × Schlesingerianum Mons. de Curte (Award of Merit), and C. villosum.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), staged Cypripedium × Ashburtoniæ roseum, C. × Lathamianum aureum (Award of Merit), and C. × L. inversum.

H. H. Bolton, Esq., Height Side, Newchurch (gr. Mr. Eastwood), showed Dendrobium × Rainbow, derived from D. Findlayanum and D. ×

Ainsworthii (First-class Certificate), D. × melanodiscus, and D. nobile burfordiense (Award of Merit).

Mr. Allen, Sale, Cheshire, showed Cattleya Trianæ.

M. Peeters, Brussels, showed Zygopetalum Perrenondi (First-class Certificate), Cypripedium Chamberlainianum, Sophronitis Rossiteriana, and Odontoglossum × Wilckeanum (First-class Certificate).

Mr. James Cypher, Cheltenham, showed Zygopetalum crinitum superbum, Cattleya Trianæ Gratrixiæ, C. T. superba, Dendrobium × Ainsworthii, Cypher's variety, and D. × splendidissimum Leeanum, all of which obtained Awards of Merit, also Odontoglossum Rossii rubescens, O. R. albescens, and Cypripedium Exul.

Mr. Robson, Altrincham, showed Cymbidium eburneum giganteum (Award of Merit), Cattleya Trianæ bella, and C. T. formosa.

Messrs. F. Sander & Co., St. Albans, showed, amongst other things, a pretty Cypripedium seedling, derived from C. × Calypso crossed with C. villosum aureum (First-class Certificate), also C. × Fascinator nobilior, C. × Harrisianum albens, C. × Sallieri, Sander's var., Cattleya Trianæ nobilior, and Lycaste Mooreana, each of which received an Award of Merit.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THE second meeting of the year was held at the Drill Hall, James Street, Westminster, on February 8th, and, favoured by fine weather, Orchids were present in exceptional numbers for the season, and made a fine display. Three awards only were made by the Orchid Committee, one First-class Certificate and two Awards of Merit. An intimation from the Council that the granting of Medals would in future be entrusted to a new body, composed of representatives from each Committee, gave rise to considerable dissatisfaction, and at the Annual Meeting which followed Sir Trevor Lawrence was understood to say that he would recommend the Council to rescind the proposal, which arose from their desire to limit the number of awards and increase their comparative value. The awards of this Joint Committee are specified below.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a particularly interesting group, including a fine specimen of Angræcum pertusum with twenty-five spikes, and a large, well-bloomed Masdevallia polysticta, both of which have been in the collection since 1878, Dendrobium × endocharis added in 1879, Odontoglossum × aspersum, bought in 1881, Sophronitis grandiflora, added in 1889, and now a fine clump with forty-four flowers, Brasso-cattleya × Lindleyana with twenty-

four flowers, together with strong examples of Angræcum eburneum, Odontoglossum crispum, and O. × Andersonianum, all cultivated for many years. The group also contained a good plant of Epidendrum Endresii, E. polybulbon, Cattleya Percivaliana, Dendrobium × Juno, D. × burfordiense, Calanthe × gigas, Cypripedium × hirsuto-Sallieri, and other fine things. A Silver-gilt Banksian Medal was awarded by the Joint Committee.

Philip Crowley, Esq., Waddon House, Croydon (gr. Mr. Harris), exhibited Lælia anceps waddoniensis, a splendid white form allied to L. a. Schrœderiana, with large open lip, with a few purple lines on the side lobes. A First-class Certificate was awarded.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), staged a choice group, consisting of Lælio-cattleya × Doris, Cypripedium × Sandero-superbiens, C. × Youngianum superbum, a fine example of C. × Ceres, and the two following, each of which gained an Award of Merit :—Phaio-calanthe × grandis (Phaius grandifloius ♀ × Calanthe × Bryan ♂), bearing a very robust spike of large flowers, with the sepals and petals white tinged with rose at the base, and the lip purple with a few white stripes ; and Calanthe × splendens (C. rosea ♀ × C. × Bryan ♂), a fine thing, with flowers uniform carmine-crimson in colour.

Lord Foley, Ruxley Lodge, Esher (gr. Mr. Miller), staged a very fine group of Cypripedium insigne forms. A Silver Banksian Medal was awarded by the Joint Committee "for Cypripediums and Fruit."

Sir Frederick Wigan, Clare Lawn, East Sheen (gr. Mr. Young), showed the rare Odontoglossum Schillerianum, and a good Lælia pumila præstans.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), sent the fine Odontoglossum × excellens spectabile and O. luteopurpureum grandis, a beautiful variety of the hystrix type.

C. W. Chard, Esq., Clapham Common, showed the handsome Cypripedium × Chapmanii.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), sent the handsome Odontoglossum Rossii rubescens.

Major Joicey, Sunningdale Park (gr. Mr. Thorne), showed a fine specimen of Lycaste Skinneri.

S. G. Lutwyche, Esq., Eden Park, Beckenham (gr. Mr. Patterson), showed a good form of Cypripedium villosum.

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, sent a flower of a Maxillaria called M. Augusta-Victoria allied to M. Sanderiana, having white sepals and petals, and a broad yellow lip with some purple markings.

P. B. Tubbs, Esq. (gr. Mr. Rolfe), showed a fine richly-coloured form of Cattleya Trianæ.

Mrs. Wingfield, Ampthill House, Ampthill (gr. Mr. Empson), sent a good Dendrobium nobile with large well-shaped flowers.

Messrs. James Veitch & Sons, Chelsea, contributed a very fine group, containing the handsome Lælio-cattleya × Myra, raised from C. Trianæ ♀ and L. flava ♂, and thus from the reversed cross; Phalænopsis × Hebe, P. × intermedia var. Vesta, much brighter than the type, the new P. × Cassandra (rosea ♀ × Stuartiana ♂), a promising thing, having blush white flowers tinged with rose at the base of the sepals and petals, and the lip rose with some brown spotting on a yellow ground at the base; Cattleya × Miranda, Epidendrum × Endresio-Wallisii, E. × elegantulum, E. × O'Brienianum superbum, Calanthe × Ariadne, with creamy white flowers blotched with purple; a number of fine Dendrobiums, including D. × Dominii, D. × Cordelia flavescens, D. × Schneiderianum, D. × dulce, D. × euosmum, D. × endocharis, D. × splendidissimum, D. × Wardiano-japonicum, D. × Cybele nobilius, the brilliantly coloured D. subclausum, D. aureum, D. crassinode album, D. secundum, D. s. album, Cypripedium × Lathamianum with ten fine flowers, C. × Enid, C. × Adrastus, Cirrhopetalum picturatum, the pretty Oncidium spilopterum, Platyclinis glumacea valida, and other interesting things. A Silver-gilt flora Medal was awarded by the Joint Committee "for Orchids and Primulas."

Messrs. Hugh Low & Co., Upper Clapton, staged a fine group, to which a Bronze Banksian Medal was awarded by the Joint Committee. It contained some fine forms of Cattleya Trianæ, among which C. T. plumosa with the petals feathered with purple was very handsome, Dendrobium × Venus, D. nobile Ballianum, D. × Luna, D. × splendidissimum, grandiflorum, D. crassinode, and others, and some good Odontoglossum crispum, O. Rossii, O. Hallii, O. tripudians, the fine Cppripedium × Prewettii, C. × Swinburnei magnificum, &c.

Messrs. F. Sander & Co., St. Albans, sent the beautiful Lycaste Skinneri alba, a handsome form of Cattleya Trianæ, Calanthe rubens alba, a pure white form, and other good things.

Messrs. B. S. Williams & Sons, Upper Holloway, staged a good group, including Lælia anceps Williamsiana, Sophronitis grandiflora, Cœlogyne cristata Chatsworth variety, a well-flowered Lycaste fulvescens, forms of Odontoglossum crispum, various Dendrobiums, Cypripedium × Carnusianum, C. × calophyllum, C. × Sallieri aureum, C. × politum, some good C. × Leeanum, C. × œnanthum superburn, C. Spicerianum purpureum, C. × Williamsianum, and others.

Mr. Thos. Duck, Abbey Wood, showed a Cypripedium said to have been imported with C. insigne montanum, which more resembled a small light-coloured C. × Leeanum.

Mr. William Murray, gardener to Norman C. Cookson, Esq., showed examples of his patent Orchid Stand, an invention for raising plants above

the staging, yet allowing a free circulation of air about them, and thus preventing fungoid growth, which often occurs when inverted pots are used, to the detriment of the plants.

ORCHID PORTRAITS.

CATTLEYA TRIANÆ SANDERÆ.—*Journ. of Hort.*, Feb. 10, p. 127, fig. 19.

CYPRIPEDIUM × CAUDATUM-ROEZLII.—*Revue Hort. Belge*, Feb., p. 25, with plate.

LÆLIA ANCEPS OWENIANA.—*Journ. of Hort.*, Feb. 17, p. 143, fig. 21.

LÆLIA ANCEPS WADDONIENSIS.—*Gard. Mag.*, Feb. 19, pp. 112, 115, with fig.; *Journ. of Hort.*, Feb. 24, pp. 164, 165, fig. 24 (waddonensis); *Gard. Chron.*, Feb. 26, pp. 124, 126, fig. 48.

LÆLIA × BRISEIS.—*Gard. Mag.*, Jan. 29, p. 68, with fig.

LÆLIA RUBESCENS, Lindl.—*Gard. Mag.*, Feb. 5, p. 84, with fig.

LÆLIA MAJALIS ALBA.—*Amer. Gard.*, Feb. 5, pp. 109, 110, with fig.

LÆLIO-CATTLEYA × JACOBIANA.—*Moniteur d'Horticole*, July 10. 1896, p. 158, with plate. This is a form of L.-c. × Aphrodite.

PAPHIOPEDILUM CHAMBERLAINIANUM, Pfitz.—*Bot. Mag.*, t. 7578.

SACCOLABIUM MINIATUM.—*Journ. of Hort.*, Feb. 3, p. 109, fig. 17.

SOBRALIA LUCASIANA.—*Journ. of Hort.*, Feb. 3, p, 105, fig. 16.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

H. J. R., Florence. The Cypripedium is not C. × Atys, but looks like a form of C. nigritum, Rchb. f., a Bornean species. See vol. v. p. 79. Is there any evidence of your plant being a hybrid?

E. F. C. Many thanks. Owing to pressure on our space the article, and one or two others, must stand over till next month.

W. J. R., Maghull. A good typical Odontoglossum Hallii.

A. M. B. The resemblance which Cypripedium × Mrs. G. D. Owen (C. × superciliare × villosum) bears to C. × Harrisianum is not surprising, for the latter is half villosum and half barbatum, while the former is half villosum, a quarter C. barbatum, and a quarter C. superbiens.

A. W. H. Next month.

J. and R. C., Wakefield. A small pale form of Odontoglossum × Andersonianum.

Correspondents are requested not to wrap the flowers they send in cotton wool. If this material is used at all in packing, the flowers should always be isolated by a little tissue paper. When slips of papers containing names or numbers are attached they should not be rolled round the stalks, but in all cases should be tied on in such a way that they can be read without being detached.

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Orchid Society.

HEADQUARTERS: THE COAL EXCHANGE, MARKET PLACE, MANCHESTER.

MEETINGS of the COMMITTEE, for the purpose of Adjudicating upon the Orchids submitted, will take place on THURSDAY, March 10th and 24th, 1898, at 12 o'clock prompt. Open to members from 1 o'clock to 4 o'clock p.m.

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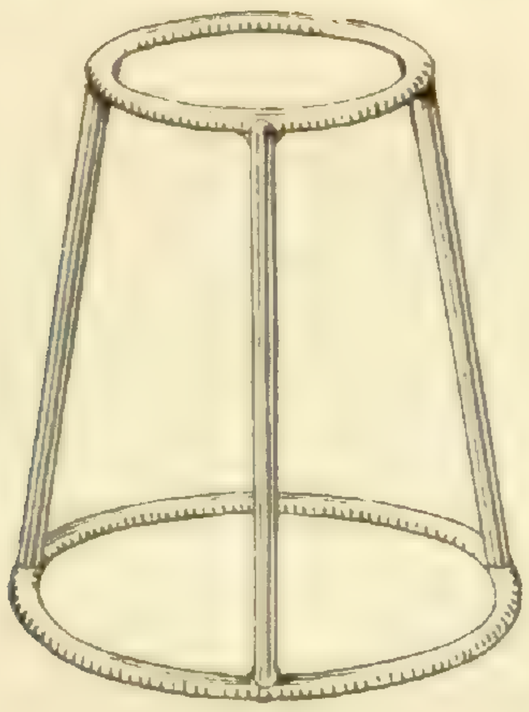

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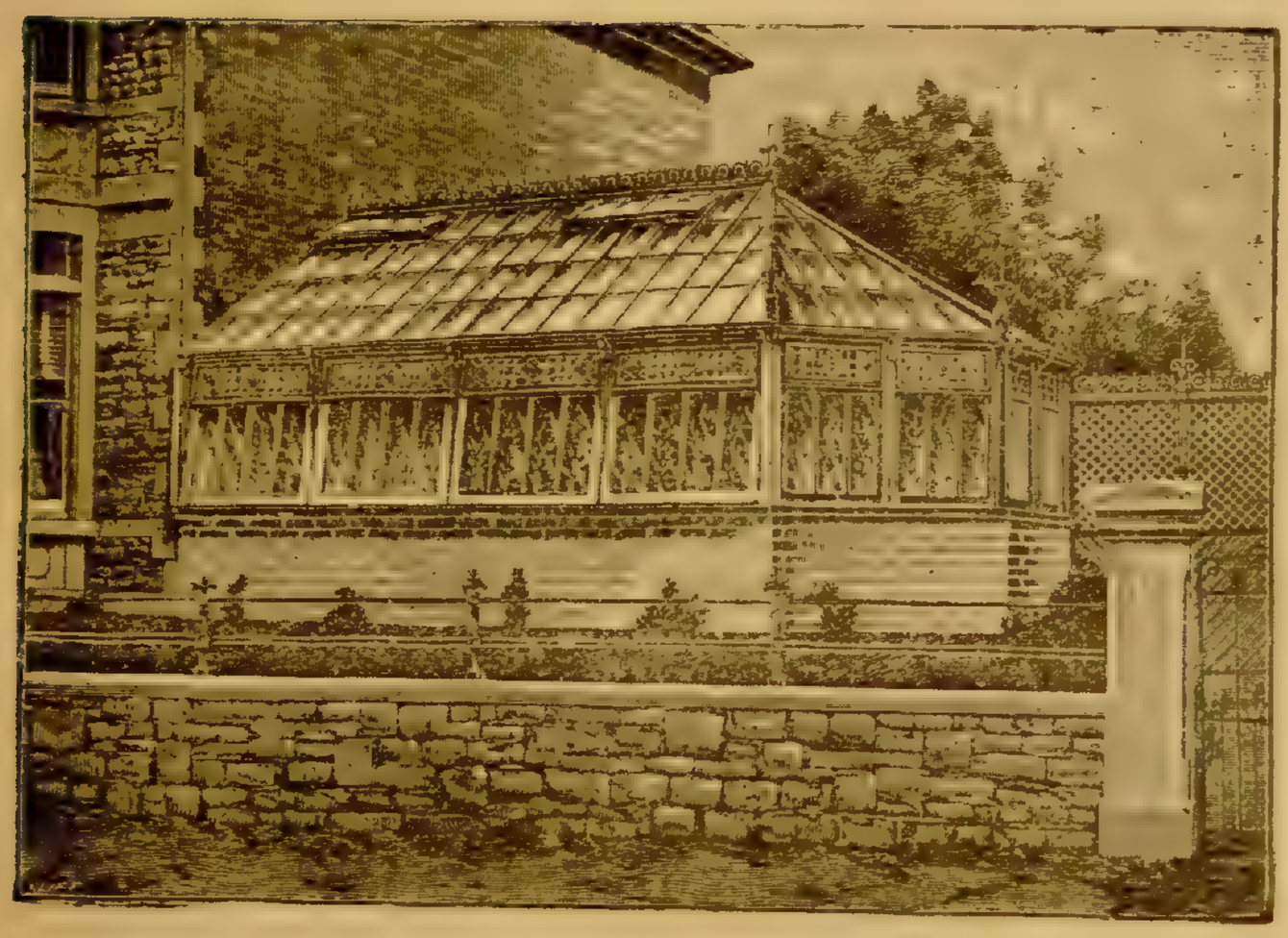

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, during April, on the 12th and 26th respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock, noon.

The Manchester and North of England Orchid Society will also hold two meetings during the month, on the 14th and 28th, at the Coal Exchange, Manchester. The Orchid Committee meets at noon, and the exhibits are open to inspection an hour later.

The fourteenth International Horticultural Exhibition of the Société Royale d'Agriculture et de Botanique de Gand will be held at Ghent from April 16th to 24th, when a magnificent display of Orchids may be anticipated, 73 classes being set apart for them.

We have received the Schedule of Prizes for the Whitsuntide Exhibition of the Royal Botanical and Horticultural Society of Manchester, to be held at Old Trafford, from May 27th to June 2nd. There are classes for the best miscellaneous collection of Orchids, both for Amateurs and Nurserymen, for ten specimen Orchids in bloom, the best collection of Odontoglossums, the best of Cattleyas and Lælias, and the best garden hybrid in the Show. The competitions are open to all, on five clear days' notice to the Secretary, Mr. P. Weathers, being given.

An inflorescence of the graceful Epidendrum Stamfordianum is sent from the collection of John W. Arkle, Esq., of West Derby, Liverpool. It is from a plant recently brought from Central America by one of Mr. Arkle's

friends, and should be taken care of. The specimen plant exhibited by Sir Trevor Lawrence, at the Temple Show in 1895, to which a Silver Flora Medal was given, will long be remembered.

A flower of the beautiful Dendrobium crassinode Barberianum comes from the collection of F. H. Moore, Esq., of Liverpool. It is characterised by having larger and darker tips to all the segments than the ordinary form. The present plant came out of an importation by Messrs. John Cowan & Co.

We learn from Mr. White that the rare Masdevallia deorsa, in the collection of Sir Trevor Lawrence, is now showing for flower for the first time in Europe. Its curious pendulous habit was noted at page 206 of our last volume.

A very fine form of Dendrobium nobile has been sent by Messrs. F. Sander & Co., St. Albans, which appeared in a recent importation. It is very similar to the remarkable D. n. Hardyanum, but is not quite equal to it in size. The petals are 11 lines broad, and the lip 14 lines, the blotch being very broad and deep in colour.

A curious double flower of Odontoglossum Pescatorei is sent from the collection of H. H. Bolton, Esq., Newchurch, Manchester, by Mr. Eastwood. The two pedicels are completely fused together, and the two adjacent lateral sepals are united back to back, but all the other parts are free and in the normal condition.

A form of O. × Andersonianum is also sent, with yellow ground, and several small red-brown spots at the base of the segments, and thus belongs to the variety herbraicum. It came with some imported O. crispum.

Dendrobium Wardianum Broomeanum is a striking variety from the collection of Joseph Broome, Esq., Sunny Hill, Llandudno. It is characterised by the back of the sepals being suffused with bright rose, which stains through to the front, and the tips of all the segments are bright purple, and very sharply defined. A very fine flower of Lycaste Skinneri is also sent.

A good flower of the rare Lælia Boothiana is sent from the collection of W. M. Appleton, Esq., of Weston-super-Mare, in which the lip is prettily veined with bright purple on a lighter ground.

An example of Dendrobium crassinode with fused flowers, from the collection of Reginald Young, Esq., of Sefton Park, Liverpool, has the peculiarity that the two are placed back to back, not side by side, as is

usually the case. Thus the two lips face each other, and the two chins are opposite. The fusion terminates at the apex of the pedicel, and all the parts are free from each other.

A good dark form of Odontoglossum Hunnewellianum is sent from the collection of J. Bradshaw, Esq., The Grange, Southgate. It is said to have come among some imported crispums, though we believe that the two do not actually grow together.

Flowers of the rare Odontoglossum facetum, Rchb. f., and of O. × mulus are sent by Messrs. Hugh Low & Co., Bush Hill Nursery, Enfield. The former seems about intermediate between O. sceptrum and O. Hunnewellianum.

A good dark form of Dendrobium nobile is sent from the collection of R. B. Macbean, Esq., of Lancaster, the whole of the area beyond the disc being suffused with rose-purple.

A series of fine forms are also sent by Mr. John Robson, of Altrincham, showing what an amount of variation the species presents. Among the named forms may be mentioned D. n. delicatum, having the sepals and petals of a delicate pink tint, and the well-known varieties nobilius and Amesiæ.

A flower and leaf of the rare Aëranthes grandiflora are sent from the collection of H. J. Ross, Esq., of Florence, which came out of M. Hamelin's Madagascar importations. The flowers are very light green, borne on long scapes, and are remarkable for the unilaterally inflated spur.

A photograph of a good plant of Cœlogyne cristata alba is sent by Mrs. Barton, High Bickington, N. Devon. It is trained in the shape of a fan, and bears nine racemes of five flowers each. It has been grown on from a small scrap, pieces of teak being added as the plant required more room.

A good form of Dendrobuim × Ainsworthii is sent from the collection of F. Hardy, Esq., Ashton-on-Mersey, raised from D. nobile Hardyanum and D. aureum. The blotch is more sharply defined than usual, and the seedling is very promising.

A flower of the beautiful Phalænopsis × John Seden is sent by Messrs. James Veitch and Sons, of Chelsea. It is the only seedling raised from a new cross between P. amabilis and P. Lueddemanniana, and closely resembles the original form.

DIES ORCHIDIANÆ.

My remarks respecting "Lælia Amesiana Crawshay's variety," at page 38, have not passed unchallenged, for Mr. Crawshay writes to say that he regrets that the specific name anceps was left out by the *G. C.* when figuring the plant; still anyone can see that it is a variety of anceps, but as to the rest of the name no exception should be taken, for though the plant is so much superior to the old Amesiana, it is not distinct enough to be called by another name. So that it is Lælia anceps Amesiana Crawshay's variety, whether Argus likes it or not.

Now both plants have, fortunately, been figured, and on looking the figures up I find that the old L. a. Amesiana (*Journ. of Hort.*, 1893, xxvii., p. 505, fig. 73) has the deep blackish purple colour confined to the apical half of the front lobe of the lip, but in the new Crawshay's variety (*G. C.*, 1898, xxiii., p. 59, fig. 22) it extends much further back, and right round the apex of the side lobes. If that is not distinction enough what shall be said of some of the other named varieties, which are separated by much smaller differences?

Another objection urged against the name "L. anceps Crawshay's variety" is that it is too much like "L. anceps Crawshayana," and will probably be mistaken for it. This, I think, is extremely likely, though the moral which I should learn from the argument is a very different one. When it takes five words to indicate a variety it is not rash to predict that something will soon be left out; in fact it was the omission of the specific name, and the consequent confusion with a totally different plant, which really called forth my remarks.

Recently I have seen many names of five words like Lælia anceps Amesiana Crawshay's variety, and I may as well say that besides thinking them too long, I consider them erroneous. If "Amesiana" is the name of the variety, "Crawshay's variety" cannot be correct. "Crawshay's sub-variety" would be correct in point of form, but I do not see the necessity for such inordinately attenuated names. Varieties must be distinguished, that is admitted, but a single varietal name following the specific name would be sufficient. Such names as Lælia anceps rosea and L. a. Hilliana are short and concise, and answer every practical purpose, which is more than can be said of many of the recent developments, some of which I have called attention to in previous articles.

The present notes were crowded out last month, and I have other communications on the subject which must stand over for the present.

ARGUS.

BULBOPHYLLUM DAYANUM.

THIS rare and very remarkable species has just flowered in the collection of W. P. Burkinshaw, Esq., West Hill, Hessle, E. Yorks (gr. Mr. Barker), from whom we have received a flower. The species was originally described by Reichenbach in 1865 (*Gard. Chron.*, 1865, p. 434), from a plant which was introduced by Messrs. Hugh Low and Co. from Burma, and flowered in the collection of J. Day, Esq., of Tottenham. It afterwards bloomed in the collection of W. Wilson Saunders, Esq., from the same source, and was figured in the *Refuguim Botanicum* (t. 115), though Reichenbach then suggested Borneo as the native country, because none of the collectors of plants who had "had their servants collecting, and partly, nearly, or totally destroying Orchids in that Eldorado of Orchids," Burma, had again met with it. This idea, however, was erroneous, for the Rev. C. Parish shortly afterwards sent it from Moulmein: it flowered at Kew, and was figured in the *Botanical Magazine* in 1874 (t. 6119). Somewhat recently it has been re-introduced, and flowered at Glasnevin in July, 1896, and also in the collection of the Hon. Walter Rothschild, who exhibited it at a meeting of the R.H.S. on January 12th, 1897, when it received a Botanical Certificate. The plant is very dwarf and bears large flowers, which are remarkable for having the sepals and petals fringed with long hairs. The sepals are light green streaked and spotted with purple, and the petals and lip darker; these details, however, being subject to variation, according to the figures. It is a very interesting botanical species.

R. A. R.

AN AMATEUR'S EXPERIENCES.

By EUSTACE F. CLARKE, TEIGNMOUTH.

I UNDERSTAND that the early experiences of an amateur Orchid grower, starting with a very few plants, and with almost everything to learn, may be of some slight interest, and possibly afford some encouragement to others who may now be in a similar position.

I have always been much interested in gardening, especially since I have had greater opportunity for gratifying my taste. Before coming to Teignmouth, however, my attention was mainly given to the outdoor garden, more particularly to Alpine plants and bulbs.

In the autumn of 1893 I chanced to read an article in *Gardening Illustrated*, from which I gathered that the culture of certain kinds of Orchids was easy, and that a few could be grown for some years successfully in an ordinary greenhouse, provided that they had proper attention given to them, and I was induced by an advertisement of the Liverpool Horticultural Company to write, asking them to send me

two of the easiest Orchids to start with. They sent me two Odontoglossum Rossii and one Masdevallia Harryana (which in potting up became two). Later in the same year, I obtained a plant each of Cypripedium insigne, Oncidium aurosum, O. maculatum, Cœlogyne cristata, Lycaste aromatica, and Tricophilia tortilis, also two Odontoglossum crispum.

I was fortunate enough, in coming to Teignmouth in June, 1893, to find a very fair-sized greenhouse in the garden, which was, however, heated only by a somewhat inefficient gas stove. It consisted of two portions on different levels, but with no separating door. The larger division was span-roofed, about fifteen feet square, and fairly high, and was situated at the angle formed by an east and a south wall. Against the south wall was a long bed, running through both divisions, in which an oleander and a peach tree were planted. There was also a narrow centre bed in the large division, planted with Plumbago capensis, two or three Roses, a Clematis, and Boussingaultia baselloides. Scale, mealy bug, and aphis were rampant in the house, in which they had got a firm hold while the place was untenanted. In the lower division of the house (which was a lean-to, about ten feet by eight, against the south wall), four vines were trained against the roof (their roots being outside the house). I waged war with partial success against the mealy bug and other enemies, and, fortunately, they did not appear to have a special fancy for Orchids.

Decidedly cold weather set in towards the end of the year. Some of my plants were at that time suspended under the vine branches in the lower division, and others were placed on the bed under the peach tree, I think, on slates. During the night of the 4th January, 1894, there was a very severe frost, and, on entering the greenhouse about nine o'clock the following morning, I found a very serious state of things. The thermometer in the greenhouse then marked 29°, or three degrees of frost, and, no doubt, it must have been much lower during the night. Of the suspended Orchids, Tricophilia tortilis and Oncidium maculatum were clearly killed, and their leaves and bulbs were all turning yellow. Oncidium aurosum and Lycaste aromatica lost one or more bulbs and leaves. The former recovered so far as to make a small bulb the following year, but ultimately this was found to be rotten, and the plant died either during the cold weather of February, 1895, or soon afterwards. Its roots had, before the frost, been very barbarously half cut away by a gardener, whom I then occasionally employed, with the idea of not moving it to a larger pot. It is very possible that but for this it might have fared better.

The leaves of the Lycaste were very badly blotched. The plant was taken out of its pot, and the rotten parts were cut away, and two pieces were potted up separately.

Each of these plants recovered, and made fair growth, and I still have

them both. One has flowered twice since (in 1896 and 1897), though its bulbs are smaller, and the other has hitherto declined to flower. Possibly, the original plant supplied was made up, and there are two plants of different constitution.

In one of these pots of Lycaste aromatica, a small plant appeared in 1894, which I first took to be a weed, but ultimately it made a very small bulb and seemed a diminutive L. aromatica. I found on examination that it was in no way connected with the plant in whose pot it was growing, which favours the supposition that it was a seedling from seed introduced with the material round the plant, but it has been suggested that it may have sprung from some hidden eye (the old bulb in connection with the main rhizome having rotted away). I may mention that I have since had a small bulb form on the *top* of an old bulb of Lycaste aromatica that had been accidentally divided, the growth starting from the point whence the leaves had formerly sprung. Whatever may have been the origin of the proposed seedling, it has made great progress, trebling its bulb each year, and I expect it in a year or two to be big enough to bloom.

Returning to the frost of January 5th, 1894, it was noticeable that one of the two Odontoglossum crispums, apparently the most delicate and least established, and which happened to be suspended, appeared perfectly unharmed, and made a very good growth during the following summer. It has since proved to be a very pretty spotted variety, and is still in good health. The other, which was going off flower and was placed on the bed near the peach tree, lost some leaves, and made, later in the year, a growth from a back bulb which it failed to complete. In 1895 and 1896, it also made poor and undeveloped growths, but made a fine bulb in 1897, though without flowering. It has thus taken over three years to pull round. The apparent difference in hardiness between the two O. crispum may possibly be explained by the compost of one having been wet, and that of the other rather dry, and by the fact that the injured one may have been somewhat exhausted by flowering: or it is possible that it originated from a district of lower elevation.

No harm of any kind was perceptible in the two Odontoglossum Rossii, one of the Masdevallia Harryana, the Cœlogyne cristata, or the Cypripedium insigne. The two O. Rossii both bloomed splendidly soon afterwards, and all five plants are still in my possession, either as single plants, or as represented by divisions from them.

The same frost which thus killed or seriously damaged a few Orchids killed all the Salvia splendens and some Fuchsias and common Pelargoniums in the greenhouse. The temperature about mid-day marked 20° outside our dining-room window.

Almost immediately after this frost, I had to go to London, leaving my

plants in charge of my sister and of an ordinary gardener, who came once or twice a week. I availed myself of this opportunity to visit Kew Gardens, where I made some useful observations and enquiries in the Orchid houses. I was recommended by one of the men employed there to get a Loughborough boiler, and so on my return a considerable improvement in the heating arrangements of my greenhouse was made, the old and inefficient gas-stove being replaced by a Halifax boiler (similar to the Loughborough No. 1), with 4-inch piping. I also put slates upon the stage at the end adjoining the east wall, upon which I placed gravel, and I then stood my Orchids upon inverted pots over it. This enabled me to water freely and frequently between the plants, and thus to create, as far as possible, the necessary moist atmosphere in their immediate neighbourhood. Upon the pipes, near the Orchids, I had placed two evaporating troughs.

About twice a year (in spring and autumn), I had a competent Orchid gardener from Messrs. Veitch & Sons, of Exeter, to advise as to my plants, and to do any necessary re-potting, &c., which at other times I did myself. The good health and condition of the plants I then had was generally remarked upon by him, though such plants as Primulas, Geraniums, and Begonias, and even a few Cacti, were growing in the same house and doing well.

(*To be continued.*)

EULOPHIELLA PEETERSIANA.

We have now the pleasure of recording the flowering of this remarkable Orchid, in the collection of Sir Trevor Lawrence, Bart., Burford, Dorking. Its history was given at pages 67 and 101 of our last volume, and somewhat later we recorded that the Burford plant was growing vigorously, and might be expected to flower when the proper season came round, which event has now taken place. The scape comes from below the leaves, as in E. Elisabethæ, and is over three feet high, and the flowers and buds number about twenty, the lower ones only being expanded at the moment of writing. They are over three inches broad, the petals and sepals being very broad and round, and bright purple in colour, with a much darker blotch at the apex. The lip is white with a broad purple border, and some orange streaks in the throat. It is a most remarkable and very handsome Orchid, and we congratulate Sir Trevor and his able grower, Mr. White, on their success in flowering it. If it proves as easily grown as E. Elisabethæ it will prove a great acquisition. Should the flowers keep in good condition we believe they may be exhibited at the next meeting of the Royal Horticultural Society. Mr. White states that the plant is a free grower, requiring plenty of heat and shade, and abundance of water when growing. It should be potted firmly in peat and sphagnum, but not too deep.

ORCHIDS IN SEASON.

We are now approaching the best time of year for our favorites, and if April brings us a considerable amount of work, it also gives us the first impressions of spring. Orchids, like the inmates of our gardens, seem to be influenced by the general awakening, which always characterises the present season of the year. Just as in the open air the spring narcissus have already succeeded the snowdrops, and will be followed by spring bulbs, so in our Orchid houses we are now looking forward to some real Spring flowers, in all their brillancy, to replace the winter species which have once again disappeared. The bright sun, the clear atmosphere, and the lengthening days, all conduce to the welfare of our plants, and the number of Orchids already in bloom is considerable. And how beautifully our houses are decorated by them, and what harmonious contrasts are formed by the various species in flower.

The Cool house is still gaily ornamented with numerous graceful spikes of Odontoglossum, whose blossoms, varying from the purest white to the deep violet-purple of O. Edwardii, intermingle with the richly-coloured O. triumphans and luteopurpureum, and with the aid of Cœlogyne cristata, not yet over, species of Oncidium and Masdevallia, Ada aurantiaca, and others, produce a most charming effect. The Cattleya house is also beginning to don its new season's dress, the splendid C. Trianæ and C. Schroderæ with Lælia harpophylla and L. flava, forming a fine contrast. The Warm house, too, possesses already a great number of really good species, including Dendrobiums in full season; also many Cypripedes and Selenipedes, and the truly beautiful Lælia glauca.

We may now take a glance round the houses, and note in more detail what April will actually show us, for it is always interesting to watch our favourites year after year taking their annual evolutions.

The Cool house seems to be nearly in its perfection, and other spring species are coming on rapidly. The handsome Cochlioda sanguinea is now blooming, and the rare Cypripedium californicum is already showing its numerous flowers; among Masdevallias we have M. Schrœderiana, × Chelsoni and Veitchiana, with other interesting species and hybrids. Besides those mentioned last month, which still make a good show, Odontoglossum apterum and its variety candidulum are nearly open. The old but always showy Sobralia macrantha is now opening its first flowers. Beautiful also in their own peculiarities are the pretty Bartholina pectinata, a South African species, with the lip broken up into numerous radiating filaments, and the Australian Caladenia carnea alba, with its pure white flowers. They should be grown in quite a cool house, and it is a pity that they are so rarely seen. Scaphosepalum punctatum is

another curious species coming into flower, found in few collections.

The Intermediate and Cattleya houses will soon be in all their beauty, so numerous are the plants flowering in these departments during the spring and early summer. Cattleyas are now coming in season, and several very showy species are already pushing up their buds through the sheath. C. intermedia, Mendelii, Mossiæ, the brilliant C. Lawrenceana and C. Skinneri, will all be opened before the end of the month. The free-growing Cœlia Baueriana is now throwing up its spikes, also the beautiful Epidendrum × O'Brienianum and E. elongatum are still in bloom. The lovely Eriopsis rutidobulbon is showing for bloom, and thrives fairly well grown in baskets close to the light. The richly-coloured Lælia cinnabarina is showing its long spikes, and L. purpurata will show its buds in the sheath during the month. Anguloas are now blooming, A. Clowesii, with its sweet-scented flowers, and A. uniflora, being very good. Two small-growing Lycastes now coming on are L. consobrina and brevispatha, also the incomparable Maxillaria Sanderiana is now showing its spikes, and may be in bloom before the month is out. Miltonias will soon be in season. M. × festiva and the handsome M. vexillaria are both beginning to push up their first spikes. Odontoglossum citrosmum is already opening, and we would advise all who possess this plant, to place it when in bloom in a dry atmosphere in order to keep the flowers longer, because in a growing temperature the blooms too quickly become spotted. Among Oncidiums, throwing up their spikes, are O. Batemanianum, sarcodes, concolor, Harrisonianum, and dichromum. Trichopilia coccinea, tortilis and suavis are already in bloom and are very beautiful, and the prettty Epiphronitis × Veitchii is still in flower. Pleurothallis scapha, and various other botanical species might also be mentioned.

The Warm house is just now the most gaily decorated department, for Dendrobes alone are forming a most charming display, and numerous are the varieties flowering during this month. It is regrettable that many of them present such cultural difficulties, and it is sometimes surprising to notice how two plants coming from the same district, grown under similiar conditions or treatment, will differ, one thriving fairly well and the other not at all. Besides the well-known species we have now in season, D. amœnum, cariniferum, the beautiful D. dixanthum, Foelschii, hercoglossum, infundibulum, Jamesianum, Jenkinsii, the valuable D. Lowii, O'Brienianum, Parishii, and the quite distinct D. purpureum, Broughtonia lilacina and sanguinea are also pushing up their spikes, with Alrides multiflorum var Hughii, and the rare Angræcum descendens. Several Cœlogynes are also sending up numerous spikes, as the old C. Massangeana, always a free blooming species, C. Houlletiana, tomentosa, uniflora, and conferta, and will show their flowers before the end of the

month. Amongst Cypripediums, which still form an interesting show, a few more are now fast coming on, as C. Argus, Curtisii, hirsutissimum, the handsome C. Lawrenceanum and C. Stonei. Lissochilus Krebesii is a South African species which flowers quite freely after a thorough rest. Phaius bicolor, and the graceful and sweet scented Platyclinis glumacea should also be mentioned.

Many botanical species could be mentioned, but already we have exceeded our alloted space, without nearly exhausting the list, for in other collections various species will be found which we have omitted.

ODONTO.

CYMBIDIUM LOWIANUM WITH DOUBLE FLOWERS.

IT is most unusual to find all the flowers on an inflorescence fused together in pairs, but we learn that in the collection of J. W. Hodgson, Esq., Higher Bebington Hall, Birkenhead, one has now made its appearance. One of these double flowers has been sent by Mr. Hodgson, who remarks that the plant has "twenty or thirty blooms on it, all the same, *double*." In the example sent the two ovaries are completely fused, and the two adjacent lateral sepals are also united along their median nerve, but all the other parts, including lip and column, are free, and thus every organ exists in duplicate, and as the peculiarity extends to the entire inflorescence the effect must be very curious. We are unable to suggest any reason for the peculiarity, and should like to know if it is repeated next year. A case of Odontoglossum gloriosum with five double flowers on the inflorescence is recorded at page 238 of our second volume, but we do not call to mind another instance of all the flowers being in this condition.

ODONTOGLOSSUM × LOOCHRISTIENSE.

WE have received from M. Ch. Vuylsteke another flower of the beautiful Odontoglossum × loochristiense, which was described at page 41. It is from a second seedling out of the same batch, and is a decided improvement on the original, being larger and brighter in colour—in some respects resembling a brightly coloured O. × excellens, but with the essential crispum shape, and toothed column wings. The petals are clear bright yellow, without any trace of spots, but each sepal is lightly suffused with a rosy purple tint, and bears a large cinnamon blotch above the middle. A similar blotch also occurs on the lip. It is probable that the usual amount of variation will appear as other seedings flower, but this point may be left for the present.

HYBRIDISING DENDROBIUMS.

An appeal for help from a brother amateur so far removed as Chicago, is a strong inducement to give any assistance I am able to do, but I cannot but think Mr. Le Moyne might be better advised than by me.

It would be an assistance to us all if one of our well-known amateur raisers of seedlings would answer his questions, for perhaps it is asking too much to expect the professional gardener to make public property of essential details acquired in the pursuit of his business, and representing so much capital; still, any stimulus that can be imparted to the buying community (and seed raising is a valuable aid in keeping up the interest) must tend to the advantage of the sellers.

The point made that the emission of an odour palpable to our sense by some flowers is an indication of their receptive condition, it appears to me, so far as our experiments are concerned, may be dismissed by the consideration that within reasonable limits as to time, the pollen once placed on the stigmatic surface, even at an unsuitable moment, would remain there unaltered to effect its purpose later on when the conditions were favourable, and this remark applies equally to the question of time of day, and presence of sunlight, but as regards the majority of Dendrobiums I should think plenty of light is an essential condition to fertilisation. My own practice is a convenient one, viz., to operate when I have time.

There are some very interesting letters in your earlier volumes from the late Mr. Pfau and others on the fertilisation of Orchids in the tropics, from which may be gleaned that in their native habitats the flowers are visited by the insect medium as soon as they open; but these accounts all refer to New World species, and I do not remember seeing any similar contribution respecting Old World plants, the subjects now dealt with. My experience, gained in this comparatively sunless district, is that it is a mistake to fertilise Dendrobiums as soon as they are expanded—you lose your flowers in the usual way, and the pedicels quickly follow suit. The only success (partial) I have had with varieties which are short lived has been when experiments have been made with flowers *already fading*.

The same observation applies to the pollen employed. I am inclined to think it can scarcely be too old, and success has followed the use of flowers which have been plucked for several days and allowed to wither before the pollen was taken. Much useful experience in this direction, but respecting the hybridisation of Cattleyas, was given in your fourth volume by Mr. Mead, of Oviedo, Florida.

Again as to the amount, I may say I have never used the pollen of more than one flower, and sometimes have divided that between two desirable subjects when I have been short of it, and most of my pods have, when

ripe, contained thousands of fat seeds, which, under the microscope, clearly revealed their germinating capacity. But this germination is another, and seemingly more intricate subject.

Mr. Le Moyne uses my term "half success" for his failures, so very probably these have resulted, as I believe some of mine have done, from giving water to the roots of the seed parent too soon after pollination, One axiom my experience seems to impress, is that it should be applied very sparingly indeed for some time—and a critical period in this respect recurs during the resting period of the seed bearer.

No useful purpose would be served by recording my many failures, for I am of opinion the majority of them are the result of inexperience in the details above referred to, and not that the combination of the species made use of is hopeless.

Liverpool. F. H. MOORE.

CATTLEYA ALBINOS.

THE recent dispute about the so-called Cattleya Aclandiæ alba has drawn attention to the question of albinism in Cattleyas rather prominently, and in response to a letter from an esteemed correspondent, who suggests that a list of the species which have produced albinos would be interesting, we have collected together the following information on the subject. We may take the labiata section first.

CATTLEYA LABIATA ALBA is a most beautiful albino, which, so far as we know, was never heard of until the recent re-introduction of this fine old autumn-flowering species. It first appeared, we believe, in the collection of M. G. Warocqué, of Mariemont, Belgium, in January, 1891 (see *Journ. des Orch.*, i., p. 376, where it is recorded under the spurious name of C. Warocqueana alba), but others soon followed, and on December 13th, 1892, a plant from the collection of M. Wells, Esq., Broomfield, Sale, received a First-class Certificate from the Royal Horticultural Society. The flower is pure white with a little yellow on the disc.

C. GASKELLIANA ALBA appeared in 1888, both with R. H. Measures, Esq., of Streatham, and with M. A. Van Imschoot, of Gand. It is pure white, except for the yellow throat.—C. labiata Gaskelliana alba, Rchb. f. in *G. C.*, 1888, iv., p. 178.

C. TRIANÆ ALBA can be traced back until 1882, when we find it flowering with Messrs. James Veitch and Sons, at Chelsea (*G. C.*, 1882, xvii., p. 222), which was probably not its first appearance. Indeed, three years later, when it was figured in *Lindenia* (i., p. 63, t. 29), it was said to have appeared with M. J. Linden as long previously as 1867, though we

do not find any record at the time. It is pure white with a deep yellow throat.—C. labiata Trianæ alba, *Reichenbachia*, ser. 1, ii., p. 73, t. 81.

C. Schrœderæ alba flowered with Messrs. F. Sander & Co., in 1888 (*G. C.*, 1888, iv., p. 94), and agrees with the type in shape, and the orange throat of the lip, the rest of the flower being white.—C. labiata Schroderæ alba, *Reichenbachia*, ser. 2, i., p. 37, t. 17.

C. Mendelii Bluntii is a most beautiful albino with only a light yellow stain in the throat, which flowered in the collection of J. Day, Esq., of Tottenham, in 1876. It was originally named C. Bluntii, in honour of Mr. H. Blunt, collector for Messrs. Hugh Low & Co., who sent it home. Another albino of C. Mendelii is known as Quorndon House variety. It flowered in the collection of W. E. J. B. Farnham, Esq., Quorndon House, Loughborough, from one of Messrs. Sander's importations, and received a First-class Certificate from the Royal Horticultural Society on May 3rd, 1892. It was sold for 220 guineas at the disposal of the collection.—C. labiata Mendelii Quorndon House var., *Reichenbachia* ser. 2, ii., p. 33, t. 64.

(*To be continued.*)

ODONTOGLOSSUM × MURRELLIANUM VAR. STEVENSII.

A very interesting and beautiful Odontoglossum has appeared in the collection of John Stevens, Esq., of Twickenham. It was purchased in a batch of O. triumphans and O. Pescatorei mixed, but is evidently a natural hybrid between the latter and O. gloriosum, which are known to grow together, and which I believe are the parents of O. × Murrellianum, as pointed out in a previous note (*ante*, ii. p. 329), where the history of the hybrid is given. It differs from the original in having more acuminate, spotted segments; in fact it shows the influence of O. gloriosum as strongly as does the original that of O. Pescatorei, yet I believe that both have the same origin. The flowers are ivory white, the sepals having a large red-purple blotch above the middle and another irregular one below it, and the petals three similar lines at the base and three or four irregular blotches about the middle. The lip is pandurate, acuminate at the apex, ivory white, with a pair of red-purple spots in front of the crest, the claw being bright yellow with a few brown lines and streaks. The crest consists of a pair of prominent yellow-toothed calli, as in O. gloriosum, with a small additional tooth on either side, and the column wings are cirrhose, as in O. gloriosum. The characters of O. Pescatorei are very obvious in the shape of the lip and colour of the flower, but those of O. gloriosum preponderate elsewhere. It is probably weak, as the spike has at present only six flowers.

R.A.R.

CATTLEYA TRIANÆ VARIETIES.

SEVERAL other varieties of Cattleya Trianæ have been sent to supplement our remarks at page 71, and some with request for names. The latter point is not so easy as might at first appear, for so variable is this Cattleya in colour and other details that it is difficult to find two flowers exactly alike, and some of the named forms are individuals rather than varieties. Our remarks are not intended to be taken in that sense, but rather as an attempt to arrange the different variations under certain heads according to the prevailing types, so as to facilitate their identification. Thus the varieties alba, delicata, tricolor, &c., have some real significance, but it does not follow that the different individuals referred to them are absolutely identical, and this is especially the case with such varieties as Backhouseana, which take their name from some well-marked peculiarity which is apt to recur from time to time in different importations. There may be plants with a feathered blotch at the apex of the petals, called Backhouseana, in various collections, but all may not be identical with the one to which the name was originally given. And this condition of things must apply to any plant which cannot be multiplied rapidly. If we could propagate choice varieties quickly by cuttings or by seed, the best and most distinct would soon displace inferior ones, and greater uniformity would be attained: but with Orchids this is not possible. We make these remarks in order to avoid being misunderstood, for there are a few named varieties which hardly ever recur in a condition quite equal to the original plant, and some might object to the use of the original name as misleading. Others re-appear in superior form, and this is sometimes held as a sufficient reason for giving a new name. Both these points have been raised in correspondence, and we can only once more express our conviction that for varieties of Orchids generally a certain amount of latitude must be allowed.

From the collection of F. M. Burton, Esq., Highfield, Gainsborough, are sent two very pretty forms, one having white sepals and petals and the lip rose-pink throughout, except for the yellow disc, thus forming a rather striking contrast. We do not find anything quite corresponding to it. The second has rose-pink sepals and petals, and the front lobe of the lip brilliant amethyst, and may be considered fairly typical.

A very brightly coloured form comes from the collection of Alfred Darby, Esq., Little Ness, Shrewsbury, with bright rose-purple sepals and petals, and a rather darker lip, with deep yellow throat. This we do not quite identify, but several named varieties of this type are very loosely defined.

One from the collection of W. S. M'Millan, Esq., of Maghull, Liverpool, has light rose-purple sepals and petals, and the front lobe of the lip extremely dark, and may be referred to the variety ATALANTA.

A form from the collection of H. J. Elwes, Esq., Colesborne, Gloucestershire, is remarkable for possessing a deep yellow stripe along the centre of the lateral sepals, as in the variety VANNERIANA. This looks like a freak, and it will be interesting to see if it proves constant.

Two light forms come from the collection of E. F. Clark, Esq., of Teignmouth, one of them very good, but the other apparently undeveloped.

THE HYBRIDIST.

PAPHIOPEDIUM × APPLETONIÆ.

THIS is a large and handsome hybrid, raised in the collection of W. M. Appleton, Esq., of Weston-super-Mare, between P. × Harrisianum ♀ and P. ciliolare ♂. It is most like the former in general character, but is modified in shape, and the influence of the pollen parent is very obvious in the strongly ciliate petals. The dorsal sepal is very broadly ovate, somewhat reflexed at the sides, and the colour reddish-purple, with blackish-purple nerves, and a narrow white margin. The upper halves of the petals are shining purple-brown, with a few small blackish warts along the margin, and the lower halves greenish, both having darker veins, and some small small spots at the base, while the apex shades off into light reddish-purple. The lip is deep purple-brown in front, and the staminode approaches the seed parent in shape. It is a flower of excellent shape and texture, very deep and rich in colour, and is likely to prove a decided acquisition to the genus.

PAPHIOPEDIUM × WESTONIENSE.

A particularly interesting little hybrid raised in the collection of W. M. Appleton, Esq., of Weston-super-Mare, from P. Appletonianum ♀ and P. barbatum Warneri ♂. It immediately recalls P. × siamense, a natural hybrid between P. Appletonianum and P. callosum, figured, with its two parents, at page 17 of our fourth volume, but has a smaller dorsal sepal, with the veins more purple at the sides, and the apical halves of the petals much brighter purple. There are several small black warts along the upper margin of the petals, and the lip and staminode are fairly intermediate in character. The hybrid is fairly intermediate between the parents, though the dorsal sepal is most like P. barbatum. The resemblance to the natural hybrid just mentioned is easily accounted for when we remember how nearly allied to each other P. barbatum and P. callosum are. So far as we know, it is the first hybrid of artificial origin from P. Appletonianum.

ODONTOGLOSSUM CRISPUM FRANZ MASAREEL.

By kind permission of M. Jules Hye-Leysen, of Ghent, we are enabled to figure this magnificent variety, from a photograph taken of a bloom sent by him to Mr. de Barri Crawshay, of Sevenoaks, who has lent it us to reproduce. It is taken life size. The sepals and petals have the ground colour white, but owing to the immense amount of blotching in them and the external surface being much coloured, there is an appearance of rose here and there, especially at the points, making a most beautiful contrast to the solid deep claret-purple markings of the petals, the sepals being more of a crimson-brown shade. The outer band is of a duller shade of purple and is surrounded by a clear white margin. The lip is

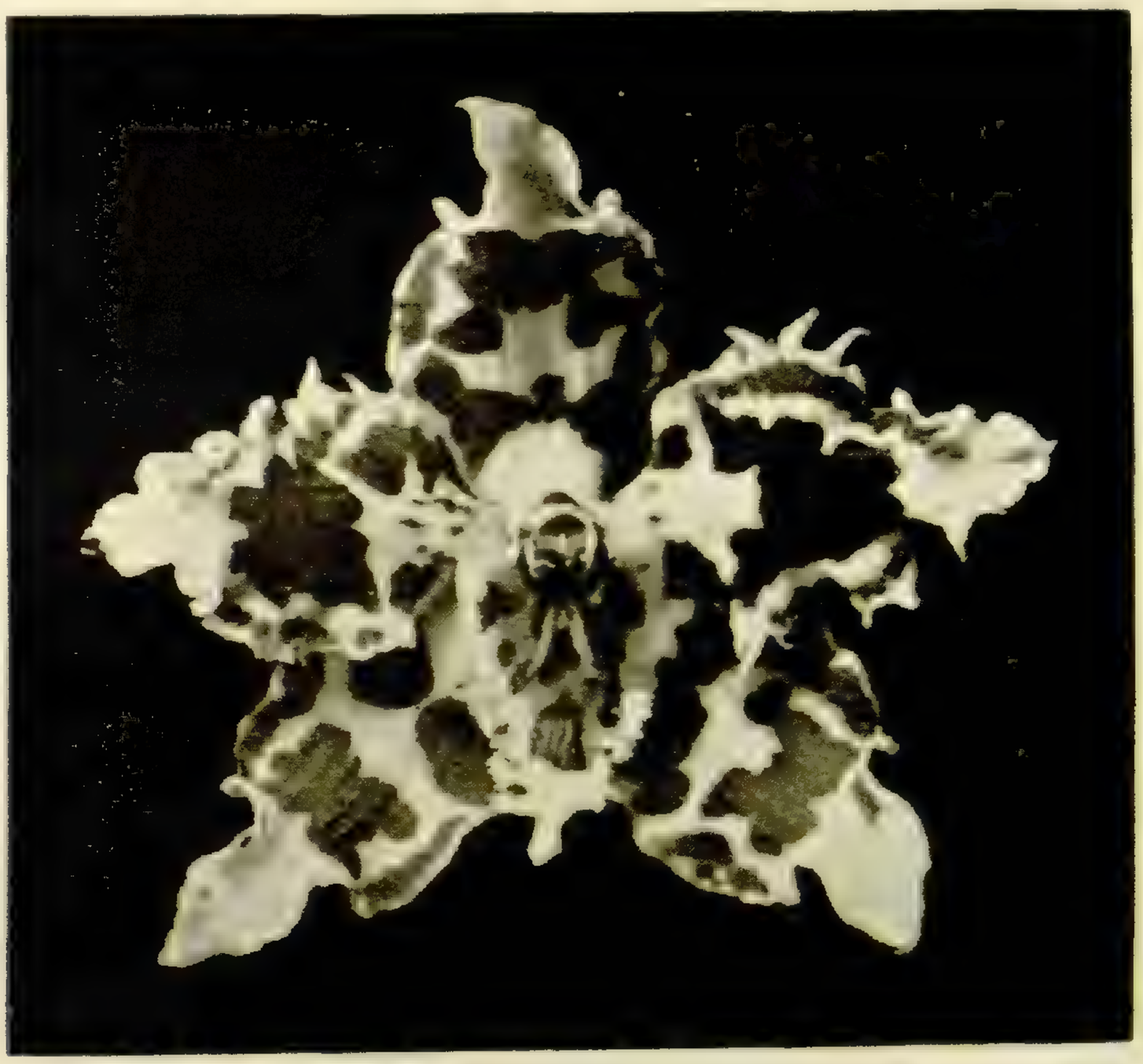

Fig. 4. ODONTOGLOSSUM CRISPUM FRANZ MASEREEL.

white with crimson-purple spots, with disc and crest chrome yellow. The column is of the same shade as the markings on the petals, fading to brown at the base. This remarkable variety, which stands near to O. c. Baroness Schröder, was imported by Mr. Aimè van den Bogaerde, of Birmingham, and sold as an imported plant with many others to M. Vervaet & Cie., of Ghent, who were fortunate enough to bloom it themselves. The spike appeared at a meeting of the R. H. S. on November 13th, 1894, when it was awarded a First-class Certificate, and it was again shown there on November 26th, 1895. Since then, M. Jules Hye has purchased it at a very high figure. It is one of the most beautiful of what may be termed the "purple" section of blotched crispums.

ODONTOGLOSSUM CRISPUM VARIETIES.

We have received from M. Jules Hye-Leysen, of Ghent, a series of five very beautiful varieties of Odontoglossum crispum. The first is O. c. Hyeanum, and is remarkable both for the large amount of colouring on the segments and its richness. The petals are an inch broad, and the sepals a little narrower, while the rich crimson-purple blotches of both are almost entirely confluent into one, leaving a small white area at the base, another at the apex, a narrow white margin, and a few irregular white markings here and there in the coloured area. On the lip the blotches are smaller and less confluent. The flower measures $3\frac{1}{4}$ inches from tip to tip of the petals, and is one of the most brilliant which we have yet seen. O. c. Capartianum has much improved since it was figured in our pages in 1894 (ii., pp. 241, 242, fig. 26), as it now measures $3\frac{1}{4}$ inches in diameter across the petals. The markings are bright cinnamon, and very similar in shape to what they were when our photograph was taken, though the petals are more alike, while the ground colour is suffused and somewhat splashed with rose, the former chiefly on the sepals. O. c. Wrigleyanum is rather larger, and has much rounder blotches, those in the centre of the three upper segments being confluent, with more white at the base. O. c. punctato-violaceum is much like a large O. c. roseum, the rosy suffusion slightly inclining to purple, especially near the centre, where also occur a few small darker dots. The petals are $1\frac{1}{4}$ inches in diameter. and the sepals correspondingly broad. O. c. Ghislainæ is a very pretty form, with white ground and light chestnut blotches, three on each sepal, very large and somewhat transverse, and those on the petals forming a kind of zone, but larger and confluent towards the apex. They form a very beautiful group, and also afford evidence of excellent culture.

A beautiful flower of O. c. Cooksoni is sent from the collection of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, taken from part of the type plant figured in the *Orchid Album* (vol. iii., t. 118). It is a large form, of excellent shape, with broad white sepals and petals, heavily blotched with deep chestnut-brown. The lip has a large blotch in front of the crest, and several small spots on either side, and the principal blotch on the sepals is also very large, the remainder, as also those on the petals, being smaller. It is very beautiful.

Two flowers of the handsome O. c. Arthurianum are sent from the collection of W. Vanner, Esq., Camden Wood, Chislehurst. The shape is very good, and the red-purple markings on the sepals and petals are more or less confluent into one large irregular blotch, having a white base and margin. The blotch on the lip is very small with a few additional spots. F.-c. C., R.H.S., March 10, 1896.

CALENDAR OF OPERATIONS FOR APRIL.

By H. A. Burberry.

I may here again repeat my advice of February last concerning the great benefit of shading Orchids during early spring. Remember that the plants, when emerging from the dull weather of winter, are rendered somewhat soft or sappy, and unable, therefore, to withstand sudden or long spells of hot, bright sunshine direct upon them. Many Orchids are thus maimed, and the greater part of the beautiful growing weather of the summer is taken up in restoring to them that which they lost in the course of an hour or two's neglect by omitting to shade. The moral is, attend well to the shading and damping down in early spring, and gradually inure your plants to the bright weather. Orchids in this respect may easily be compared to the common bedding plants of our gardens, many of which will stand with impunity cold strong winds and many degrees of actual frost during the autumn that would kill them outright immediately after being placed out of doors in Spring.

The inmates of the East Indian house are now among those requiring attention in the way of top-dressing or repotting. Owing to the increased warmth from the sun and moisture in the atmosphere they are starting to make new roots in profusion. Should any of them have got into that condition commonly known as "leggy," they may be thought somewhat unsightly, especially by the grower who is in the habit of seeing them continually. His susceptibilities are offended because they do not present a neat and well cared for appearance, and he is sorely tempted to "lower them." Now, this cutting down and lowering business may or may not be the correct thing to do, and I would advise a little consideration before actually using the knife. It is very nice to see these plants with their stems clothed from the base upwards with healthy green foliage, but in the best interest of the plants this is not always possible. In some cases the specimen may be skilfully lowered, and the result attained without the slightest injury, but in others it too often proves to be the beginning of the end. By all means lower a specimen if it can be accomplished without cutting away any part of the living stem or roots; but if any living, healthy roots have to be detached, then leave the lowering alone. After all, it should be remembered that it is perfectly natural for these aërial-rooting Orchids sooner or later to lose some of their lower leaves. If left alone, and well grown, young breaks will in due time push out from the bare stem somewhere near its base, and will soon hide its nakedness.

I have been told on several occasions, by those who ought to know, that we certainly do not cultivate East Indian Orchids nearly as well as was the case twenty or thirty years ago, or even longer. They refer to

the era of the old-fashioned flue system of heating the houses, and what lends a good deal of colour to their argument, and induces me to think that there is considerable truth in their contention, is the fact that I have myself seen some most remarkably well-cultivated specimens of such species as Phalænopsis, Aërides, Saccolabium, Angræcum, and even Chysis bractescens and Peristeria elata, come out of such houses. If they are right, and East Indian Orchids were really cultivated with greater success then than now, what is the cause of the difference? It cannot be that we understand them less, that they are imported in fewer numbers, or that the passage takes longer. There is only one explanation that occurs to me as likely to be correct, namely, the probable drier atmosphere and perhaps lower temperature during the winter or resting season. It is probable that those houses which were heated by the old flue system had a tendency to become much drier during winter, when firing was kept up pretty continually, owing to its action on the great mass of masonry necessary to make the flue chamber absolutely proof against possible leakage. It would then be so dry that whatever moisture might be distributed about the house would quickly become absorbed by the warm dry bricks, and thus render a stagnant fungoid-producing atmosphere almost impossible. During the summer time, of course, the fires would be lighted only under exceptional circumstances, and the chances are that the atmosphere of the old-fashioned Stove house was even more heavily-laden with moisture than those of our own day. I think this is a matter well worth a little consideration. There is no doubt in my mind that Stove or East Indian house plants are frequently kept too wet during winter, both at the roots and in the air, and thus we introduce "spot" and other diseases, whilst the plants themselves are less vigorous and hardy, and consequently unable to make such rapid and luxuriant growth when the proper season arrives.

The growing season is now rapidly approaching, and we must lose no time in looking over the plants and putting them in good order. They are best accommodated in teak wood baskets or cylinders, or failing these, perforated pots or pans, which are better for these essentially ærial-rooting Orchids than the ordinary garden pot, which has no holes through which the air can circulate. If the roots are in good condition, don't disturb the plants, but simply pick out as much of the old worn out compost as possible, and replenish with fresh sphagnum moss. If the roots have not a firm grip of the cylinder or baskets the plant may be unsteady, and if so should always be securely supported by the aid of a neat green-painted stick. If any plant is "leggy," and a way can be devised to lower the same without serious injury occuring to the roots, let the cylinder or basket be sufficiently large at its base to admit of its holding comfortably the mass of roots, without crushing or breaking. It frequently happens that the

bottom part of the receptacle occupied by these species is required to be larger than any other part, because in order to lower the plant the stem must go to the bottom of the receptacle, and the lower portion of the stem usually contains the greatest part of the most serviceable roots, and as pots are narrower there than elsewhere they are not so well adapted for the purpose. Fill in between the roots with charcoal, first soaked in water, and crocks. A good substitute for crocks is burnt clay, or broken brick-bats, which absorb the moisture better and give it off again more gradually than does the hard burnt pot ware. They also seem softer, warmer, and more suitable for the roots to ramble in. Finish off at the top with a layer of fresh sphagnum moss, which, though not really necessary, gives a better and neater appearance to the plants.

This growing sphagnum moss on the surface of the basket is not always a sound criterion as to whether water is required or not, and may be the means of misleading the inexperienced. The correct way to supply nourishment to aërial growing Orchids is through the atmosphere, as no amount of wet soddened material immediately round the stem will compensate for a parched-up atmosphere. It must not be supposed that because the surface moss is moist and in a growing condition that the plant is sufficiently watered, for the roots that are exposed or clinging round the bars of the receptacle must also be attended to. During summer I advise that the exposed roots should be moistened with tepid soft water two or three times a day, or as often as the condition of the weather may seem to demand, by working the syringe well round the baskets and cylinders that contain them.

To this house, suspended from the roof, I commend the hot growing Dendrobiums, such as D. Phalænopsis, bigibbum, Bensonæ, capillipes, Brymerianum, cretaceum, crepidatum, Parishii, tortile, superbiens, macrophyllum, Harveyanum, Dalhousianum, Dearei, and crystallinum, which not only require greater warmth during growth than most others, but during the resting season also. Various others, though requiring a fair amount of warmth when growing, can be given too much, as they come from higher altitudes, and greatly prefer the general conditions of the Cattleya house, where they make finer growth, and keep freer from spot and other diseases. Amongst the latter are such beautiful species as D. Wardianum, crassinode, thyrsiflorum, densiflorum, Findlayanum, Devonianum, Pierardii, nobile, ochreatum, primulinum, Loddigesii, albo-sanguineum, aureum, chrysanthum, chrysotoxum, suavissimum, Falconeri, formosum, japonicum, Linawianum, luteolum, and lituiflorum. Of course I am speaking now of the summer or growing conditions; when it comes to the winter, or resting conditions, this last named group would again have to be divided, some remaining in the Cattleya house temperature, and others going to a Cool greenhouse.

In cultural matters a good deal depends on where a Dendrobium is wintered. This reminds me that when writing the February Calendar I made a somewhat misleading remark by indicating that Dendrobium crassinode and primulinum required similar treatment to D. Wardianum. This applies only to treatment during summer, but the low temperature enjoyed by the latter during winter would probably kill the two former species, especially D. primulinum, which should never be wintered lower than Intermediate house temperature. Respecting the many garden hybrids now in cultivation, it may be remarked that the treatment best suited for the parent species is generally applicable, and thus records of parentages are useful for cultural purposes.

The deciduous Calanthes will require repotting this month. C. × Veitchii and others of the vestita group are most useful for winter blooming. Rich sandy loam is a capital thing to grow them in, and the pots should be half-filled with drainage. They grow well either singly, or several in a pot, if care be taken that the pot selected be not over large. Pot firmly, and secure the pseudobulb with a small stick. Calanthes succeed best in the temperature of the warmest house, and must be watered with great care, particularly from the time of repotting until the roots have well filled the pots.

A gardener remarked to me the other day that Calanthes seemed to him to be generally better grown in general collections than in regular Orchid collections. His argument was that those who did not profess to understand Orchids grew these Calanthes better along with their ordinary stove plants than did the Orchid grower who practically cultivated nothing but Orchids. I conceded the point, for I have observed the selfsame thing; not always, but twice out of every three cases, and the reason is not far to seek. The general man eventually finds a position in his Stove or, perhaps, the Cucumber house, which he finds well adapted for the growth of his Calanthes, and is able to reserve this position each year; thus success is assured. But with the regular Orchid grower Calanthes are often ousted from the most suitable positions by more rare and costly species, which must have the best places and the lion's share of attention. Not that he neglects his Calanthes in respect to watering and other matters; perhaps they get a little too much attention and kindly coddling, and thus in trying to grow his plants too well he fails.

There are other Orchids besides Calanthes that resent too much meddling or interfering with, and I have little doubt that they frequently get worried to death by these means. We get over-anxious about our pets; too careful that they shall have water at regular intervals; and by a too frequent repetition of dose after dose the compost gets into a bad state, and the plant becomes unhealthy, and a prey to all kinds of diseases. Again, by our over-

anxiety we are sometimes tempted to turn a plant out and repot it when not actually necessary, perhaps just as it has fairly recovered from its previous disturbance, and is in the best possible condition for making rapid and vigorous growth. How often have we gone into the afore-mentioned general gardener's Stove and there been struck by some specimen Orchid doing grandly, but which had practically taken care of itself for years and years. The conditions suited it perfectly well, and all it required was to be left alone to enjoy them uninterruptedly.

New roots are now pushing forth in every direction, and so fast will be the growth at this season that it will keep one busy, as regards repotting, top-dressing, &c., to keep pace with the times. Let those plants that are singled out for repotting be done thoroughly and well, top-dressing only those that may reasonably be expected to pass another year in safety. I have spoken strongly against repotting if not really wanted, because, however carefully it is done, it is apt to cause a check to the plants. But a time arrives when it is absolutely necessary, and delay is then still more dangerous. It is then the lesser of two evils, and we know what would happen to our choice Dendrobium species and hybrids if we failed to keep the compost in which they root perfectly sweet. Keep Dendrobes in small receptacles, and be very careful not to over-water at this early time of the year, or some of the more sensitive kinds will quickly damp off. Give them time to properly digest or cast off the effect of the last watering before repeating the same. On account of damping off, I prefer not to syringe Dendrobiums over-head for some time to come.

Cattleyas and Lælias must not be allowed to push their pseudobulbs too far over the rims of the pots before being taken in hand, or they will get in a bad way by exhaustion. It is never wise to let any Orchid become exhausted before repotting. The syringe may be used now pretty freely among Lælias and Cattleyas with beneficial results. For the coolest house, however, I would not advise over-head syringing just yet.

ROYAL BOTANICAL AND HORTICULTURAL SOCIETY OF MANCHESTER.

THE spring exhibition of this Society was opened at the large room in the Manchester Town Hall on March 15th, and although nominally a show of spring flowers, the great feature was Orchids. These exhibitions have for some years been noted for the display of Orchids, but the present show surpasses any previous one in the number of plants in this section, and the quality is well maintained. Manchester has always been noted as a centre for Orchidists, but it seems lately to have even excelled itself, thanks, no

doubt to a great extent, to the encouragement given to cultivators by the Manchester and North of England Orchid Society.

First honours on this occasion fell to E. Ashworth, Esq., of Wilmslow, who obtained the large Gold Medal of the Society for a wonderfully good group. A First-class Certificate was awarded to a new form of Dendrobium, named D. nobile Ashworthianum. This is a very beautiful albino, of an entire greenish white, but we are somewhat doubtful as to its being a true nobile. It is a most interesting and pretty form, but may be a natural hybrid. Cattleya Trianæ Ashworthii also obtained a First-class Certificate. It is an imported plant, flowering for the first time in this country. The bloom is very large and of very good substance, with nearly white sepals and petals and showing rather more colour in the lip, but it is a little wanting in form. Another, named C. T. Arthur Ashworth is distinct and excellent, and obtained a First-class Certificate. C. T. Harefield Hall variety, a very beautiful flower with pure white petals and sepals of excellent form, and with very dark lip, also obtained a First-class Certificate. Mr. Ashworth's group was also remarkable for the number of rare and beautiful Dendrobiums it contained. Besides the plant we have already named there was a very distinct form of D. Wardianum which was quite yellow in colour in those parts which in the typical variety are white; this was named Beatrice Ashworth, and obtained a First-class Certificate. The handsome D. W. Harefield variety also obtained a First-class Certificate. It is near the variety ochroleucum, but has a slight indication of the eyes seen in the type, which are entirely absent in D. W. ochroleucum. Other beautiful Dendrobiums we noticed were D. × Rainbow, and a fine specimen plant of D. × splendidissimum grandiflorum, which, with many other fine and rare forms, went to make up an exceedingly fine exhibit.

The next exhibit in point of merit was that staged by Mr. James Cypher, of Cheltenham, which obtained the Society's Gold Medal, and consisted of an exceptionally large number of well-grown plants arranged with great taste and in the pink of condition. The most striking plant in the collection was, we thought, a form of Cattleya Trianæ, to which no varietal name had been assigned. It was a beautiful compact flower with pink petals and sepals, of good form and substance, and the lip well open with very dark maroon blotch on the front lobe, ending with an exceptionally sharply defined line against a pure white band which merged into a delicate lemon colour and then became darker in the throat. It obtained a First-class Certificate. Another good thing was Cattleya Warneri, which received an Award of Merit. A noticeable plant was Cypripedium villosum magnificum, with very large flowers, the dorsal sepal being much greener than in the type. This, too, obtained a First-

class Certificate. Dendrobium Phalænopsis constituted a very pretty feature in this group, being shown in quantity and great variety.

W. Thompson, Esq., of Stone, was awarded a Silver Medal for a choice and well grown lot, amongst which the Odontoglossums stood out conspicuously as specimens of good cultivation. A First-class Certificate was awarded to Dendrobium × Backhousei (D. thrysiflorum × nobile) a very interesting hybrid which was described in our last volume (pp. 76, 110).

S. Gratrix, Esq., Whalley Range, obtained a Silver Medal for a small but choice group. Dendrobium × Rubens grandiflorum was shewn in excellent form and obtained a First-class Certificate, and Odontoglossum × Wilckeanum with a very strong spike received both a Cultural Certificate and an Award of Merit. Other noticeable plants in this exhibit were Cypripedium × Thompsoni (A. M.) C. × Harrisianum albens, and Dendrobium crassinode album.

S. Hinchcliffe, Esq., Altrincham, received a Silver Medal for a good miscellaneous collection.

Mr. John Robson, of Altrincham, was also awarded a Silver Medal for a large and creditable exhibit, amongst which a very good form of Dendrobium nobile named Robsonæ stood out conspicuously and obtained a First-class Certificate.

Messrs. Charlesworth and Co., of Bradford, obtained a Silver Medal for a very interesting group of clean and well grown plants, in which forms of Phaius × Norman were the principal feature, and obtained a First-class Certificate. Dendrobium × Owenianum was noticeable and received an Award of Merit, and there were several good Odontoglossums.

A. Warburton, Esq:, Haslingden, staged a small collection, strong in Odontoglossums, for one of which, a heavily spotted variety of O. crispum, he was awarded a First-class Certificate.

Fred Hardy, Esq., Ashton-on-Mersey, also contributed a small group, obtaining a First-class Certificate for Cattleya Mendelii, and an Award of Merit for Dendrobium × Clio.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

THERE was a very good display of Orchids at the meeting held at the Manchester Coal Exchange on March 10th. Present: Messrs. G. Shorland Ball (in the chair), G. W. Law-Schofield, Rappart, Greenwood, Sidebotham, Warburton, Cypher, Gratrix, Johnson, Weathers, and Gent (Hon. Sec.).

G. Shorland Ball, Esq., Ashford, Wilmslow (gr. Mr. Hay), showed a very fine form of Cattleya Lueddemanniana (speciosissima) Ernestii (First-class Certificate), Dendrobium fimbriatum, and two forms of D. × Schneiderianum.

D. B. Rappart, Esq., Liscard, Cheshire (gr. Mr. Nicholson), staged the very pretty and rare Dendrobium × Luna (Award of Merit).

G. W. Law-Schofield, Esq., New Hall Hey, Rawtenstall, exhibited the beautiful Dendrobium × Rainbow (F-c. C.), D. × Schneiderianum (A. M.), D. × Luna (A. M.), D. × Kenneth, and Cypripedium × Schofieldianum (A. M.).

Thomas Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), showed Dendrobium × splendidissimum illustre, which is undoubtedly one of the best of its section, though it obtained an Award of Merit only, The same exhibitor also showed D. × splendidissimum, D. × Juno. Cypripedium × Wottonii rubens, a very fine cross between C. bellatulum and C. callosum (A. M.), a very dark form of C. hirsutissimum, and Lælia × Euterpe.

H. Greenwood, Esq., Highfield, Haslingden (gr. Mr. Spurr), showed Cattleya Trianæ, Highfield variety (A. M.), C. Walkeriana, Cypripedium × conco-callosum, and Cymbidium eburneum.

S. Gratrix, Esq., West Point, Whalley Range (gr. Mr. McLeod), staged Odontoglossum × Wilckeanum with a magnificent spike (Cultural Certificate), Cypripedium × Leysenianum (A. M.), C. × Mary Gratrix, C. × Thompsoni (A. M.), C. × Harrisianum albens (A. M.), Dendrobium × Rubens grandiflorum (A. M.), and Dendrobium crassinode album (A. M.).

E. J. Sidebotham, Esq., Erlesdene, Bowdon (gr. Mr. Shiner), showed Dendrobium nobile Ballianum very well flowered (A. M.), D. × Desdemona and D. × Schneiderianum.

A. Warbuton, Esq., Vine House, Haslingden, staged an interesting collection of 24 varieties of Dendrobium blooms, which received a Vote of Thanks.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), staged Cypripedium × œnanthum superbum, C. Mastersianum, and a form of C. × Adrastus (Leeanum × Boxallii).

H. H. Bolton, Esq., Height Side, Newchurch, showed Miltonia Endresii, a beautiful Orchid, very rarely seen.

Messrs. Linden & Co., Brussels, staged Odontoglossum × Ruckerianum superbum, a magnificent variety and very well flowered, which received an Award of Merit.

W. Duckworth, Esq., Shawe Hall, Flixton (gr. Mr. Tindale), showed Dendrobium nobile, Duckworth's variety (A. M.), D. × Leechianum, and Cattleya Trianæ Dorothy.

E. Stanley Clark, Esq., Oak Alyn, Wrexham (gr. Mr. Edwards), showed Cattleya Trianæ Mrs. Stanley Clark (A. M.), Odontoglossum crispum Mrs. Stanley Clark (A. M.), O. Harryanum, Cypripedium × Lathamianum (Cultural Certificate), and Dendrobium nobile.

Messrs. Charlesworth & Co., Bradford, showed four very pretty Phaius seedlings, P. × Cooksoni, P. × Norman, P. × N. aureus (A. M.), and P. × N. roseus (A. M.).

Mr. James Cypher, Cheltenham, staged a beautiful group of Dendrobiums, in the pink of health and condition, viz., D. nobile splendens (Cultural Certificate), D. n. magnificum (C. C.), D. n. Fisheri (A. M.), and D. n. majus (A. M.).

Messrs. F. Sander & Co., St. Albans, showed a very fine plant and good form of Lycaste Skinneri alba (A. M.), and a Cypripedium seedling (Harrisianum superbum × Boxalli atratum), which we refer to C. × Eismannianum.

Mr. Wm. Owen, Hartford Nurseries, Northwich, showed a good form of Cattleya Trianæ.

H. Shaw, Esq., Heath Field, Birch Vale (gr. Mr. Cliffe), showed Cattleya Trianæ and Dendrobium nobile nobilius.

Mr. C. J. Crosfield (no address given), showed a very pretty Cattleya Trianæ albens (A. M.).

W. H. Almond, Esq., Alum Scar, Blackburm, showed Odontoglossum crispum Dorothy, a very fine spotted variety of good round form (A. M.).

At the meeting held on March 24th, the exhibits were rather less numerous, but of excellent quality. Present: Messrs. Thompson (in the chair), G. Shorland Ball, Backhouse, Bolton, Greenwood, Leemann, Stevens, Sidebotham, Warburton, Weathers, and Gent (Hon. Sec.).

G. Shorland Ball, Esq., Ashford, Wilmslow (gr. Mr. Hay), showed Dendrobium × splendidissimum illustre (First-class Certificate), D. × Rubens grandiflorum (Award of Merit), D. × Aspasia, D. × Apollo grandiflorum, Odontoglossum crispum, Cypripedium villosum giganteum, and a seedling Cypripedium from C. superbiens × niveum—a form of C. × Georgianum (Award of Merit).

John Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Dendrobium nobile, D. × Cybele (A.M.), Cattleya Trianæ, Phaius × Cooksoni, Odontoglossum luteopurpureum (A.M.), O. Pescatorei (A. M.), O. cirrhosum, Cypripedium Rothschildianum, C. × selligerum majus, an exceedingly fine form (First-class Certificate), C. villosum giganteum, C. × Germinyanum violaceum, C. × Harrisianum Albino (Award of Merit), C. Boxallii atratum, and Mesospinidium sanguineum (Cultural Certificate).

Edward Holt, Esq., Bury Old Road, Prestwich (gr. Mr. Murphy), showed Cymbidium × eburneo-Lowianum (Award of Merit).

M. G. Buckley, Esq., Westfield, Greenfield (gr. Mr. Robinson), showed a yellow variety of Cypripedium insigne in the way of Balliæ.

G. Richardson, Esq., Hale, Altrincham, showed Cattleya citrina, a well-flowered specimen, for which he received a Cultural Certificate.

E. J. Sidebotham, Esq., Eslerdene, Bowdon (gr. Mr. Shiner), showed Dendrobium Jamesianum very well flowered, Cymbidium concolor (A. M.), Cœlogyne cristata alba, and Cattleya Schrœderæ.

Mr. John Robson, Bowdon, showed Dendrobium nobile Amesiæ (Award of Merit), D. fimbriatum oculatum (A. M.), D. nobile nobilius, D. n. Ashworthiæ, D. n. superbum, D. n. giganteum, D. n. marmoratum, and two cut blooms of Cypripedium × Mons le Curte.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THERE was a very fine display of Orchids at the Drill Hall, James Street, Westminster, on March 8th, and a very full meeting of the Orchid Committee, the members present being :—H. J. Veitch, Esq., in the chair, and Messrs. J. O'Brien (Hon. Sec.), E. Ashworth, H. Ballantine, T. W. Bond, H. Chapman, N. C. Cookson, S. Courtauld, De B. Crawshay, J. Douglas, T. B. Haywood, E. Hill, J. Jacques, H. Little, H. M. Pollett, W. H. Protheroe, F. Sander, A. H. Smee, T. Statter, F. J. Thorne, W. H. White, C. Winn, and W. H. Young.

Baron Sir H. Schröder, The Dell, Egham, (gr. Mr. Ballantine) showed the splendid Odontoglossum crispum Baroness Schroder, in which the flowers are of a rich claret-purple shade except at the margin, which is white, and a few similar spots and markings where the large blotches are not quite confluent. The Committee recommended that a Gold Medal be awarded. He also exhibited two fine spikes of O. brevifolium, the rare O. × Cookeanum, O. Pescatorei xanthocentrum, O. × Coradinei, O. luteopurpureum Amesianum, a pale yellow variety, also splendid spikes of Calanthe × Baron Schröder, and its varieties superba and delicata, a Cultural Commendation being awarded to the group.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Aldous) received a First-class Certificate for a magnificent Odontoglossum called O. × Wilckeanum Pittiæ, which, according to a note at page 165 of our last volume, is a subdivision of O. × W. Queen Empress, to which a similar award was given last year (vide *supra*, v., p. 155).

T. B. Haywood, Esq., Woodhatch, Reigate (gr. Mr. Salter), showed a plant called Lælio-cattleya × Haywoodii, of unrecorded parentage, but much like L.-c. × Hippolyta, and a group of Dendrobium × Ainsworthii called Woodhatch variety with cream white segments, the latter receving an Award of Merit.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), received an Award of Merit for a plant called Lælio-cattleya × warnhamensis (L. cinnabarina × parent unrecorded), a very fine hybrid, much like L.-c. × Hippolyta.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), staged a group of three dozen well-grown plants of Dendrobium × splendidissimum grandiflorum, to which a Cultural Commendation was given.

M. Otto Froebel, Zurich, sent Spiranthes colorata maculata, to which a Botanical Certificate was given.

M. E. Zollinger-Jenny, Wollishofen, near Zurich, sent a fine branched spike of Odontoglossum ramosissimum with handsomely spotted flowers, a Vote of Thanks being accorded.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), sent Dendrobium × Clio and D. × murrhiniacum var. Euterpe (nobile × Wardianum), both very handsome.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), sent a beautiful light variety of Cattleya Trianæ called Ashworthiana, the flowers delicate peach colour, slightly darker on the lip.

N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), showed the handsome Dendrobium × Astræa superbum (D. luteolum ♀ × crassinode ♂), and D. × Cybele Oakwood variety (D. Findlayanum ♀ × nobile burfordiense ♂), which was remarkable for possessing the purple streaks of the pollen parent in the lateral sepals.

Welbore S. Ellis, Esq., Hazelbourne, Dorking (gr. Mr. Barrell), sent a form of Dendrobium × Cybele called Ellis' variety.

E. Hockliffe, Esq., Uppingham, sent Odontoglossum × Andersonianum.

The Right Hon. Lord Leigh (gr. Mr. Martin) sent some good flowers of Lycaste Skinneri.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), showed a good plant of the rare Plenrothallis punctulata, with glaucous leaves and prettily spotted flowers.

J. T. Bennett-Pöe, Esq., Holmewood, Cheshunt (gr. Mr. Downes), showed the pretty and interesting Epidendrum Stamfordianum.

J. Rutherford, Bearwood, Blackburn (gr. Mr. Lupton), showed Odontoglossum × Wilckeanum, a nearly unspotted O. × Andersonianum, and O. × A. Rutherfordianum, one of the rosy forms.

H. Shaw, Esq., Birch Vale (gr. Mr. Cliffe), sent Odontoglossum Schillerianum, and a good form of O. crispum.

W. C. Walker, Esq., Winchmore Hill (gr. Mr. Cragg), sent the interesting Acineta Humboldtii.

Messrs. James Veitch & Sons, Chelsea, staged a fine group, to which a Silver Banksian Medal was given. It contained a new seedling plant of the beautiful hybrid Phalænopsis × John Seden, Cattleya × Miranda, which received an Award of Merit, some good C. Trianæ, the pretty light yellow Lælio-cattleya × Myra, Platyclinis glumacea, the beautiful Trichopilia

suavis, Miltonia Roezlii, some good hybrid Cypripediums, Epidendrum × O'Brienianum superbum, Dendrobium crassinode, D. Wardianum, D. × Wiganiæ, D. × Cybele, several fine Dendrobium × splendidissimum grandiflorum, D. × Stratius, D. Hildebrandii albescens, and others; the brilliant Epiphronitis × Veitchii, and Cymbidium × eburneo-Lowianum, with their parents, also Epidendrum Endresii and E. Wallisii, with examples of the pretty hybrids derived from them. This feature of showing hybrids with the species from which they were derived was particularly interesting.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a particularly interesting group, to which a Bronze Banksian Medal was given. It contained a batch of thirty plants of the handsome new Phaius × Norman (Sanderianus ♀ × tuberculosis ♂), showing a considerable amount of variation. Three plants were selected for awards, Phaius × Norman and P. × N. roseus, each receiving a First-class Certificate, and P. × N. aureus an Award of Merit. With them were P. × Cooksoni, Lælia rubescens, Masdevallia × falcata, Lycaste gigantea, Oncidium spilopterum, some good Odontoglossum crispum, O. luteopurpureum, O. × Wilckeanum, O. cirrhosum, &c.

Messrs. Hugh Low & Co., Enfield, sent Cattleya Trianæ Venus, a fine white form tinted with rose-pink in front of the yellow disc, and Odontoglossum apterum (nebulosum) pardinum, an exceptionally fine form, to which an Award of Merit was given.

Messrs. Fisher, Son, & Sibray, Handsworth, Sheffield, sent a fine Dendrobium Wardianum album.

Mr. William Murray, The Gardens, Oakwood, Wylam-on-Tyne, showed his patent Orchid-stands, designed to replace inverted pots for standing the plants on, and thus preventing the injurious fungoid growth, which sometimes develops when the air is stagnant.

At the meeting held on March 22nd Orchids were less numerous than usual but included several striking things. Present:—H. J. Veitch, Esq., in the chair, and Messrs. J. O'Brien (Hon. Sec.), E. Ashworth, H. Ballantine, T. W. Bond, H. J. Chapman, N. C. Cookson, S. Courtauld, De B. Crawshay, J. T. Gabriel, E. Hill, G. W. Law-Schofield, H. M. Pollett, W. H. Protheroe, F. J. Thorne, W. H. White, and W. H. Young.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), sent a charming albino of Dendrobium nobile called D. n. Ashworthiannm, to which a First-class Certificate was given. It was much like D. n. virginale, figured at page 145 of our last volume, but the flowers not quite so large, and the sepals and petals rather more twisted, the latter character being somewhat anomalous in this species. An Award of Merit was given to a plant called Odontoglossum hybridum Ashworthianum, a very pretty thing but agreeing with that known as O. × aspersum violaceum.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), received a First-class Certificate for a superb Odontoglossum called O. crispum Princess Christian, but clearly a form of O. × Wilckeanum with white ground heavily blotched with violet-purple, for the shape of the flowers, as well as the crest, was precisely in agreement. At the base of the main spike were two side branches, each bearing two flowers.

Madame Ida Brandt, Reisbach, Zurich (gr. Mr. Schlecht), sent Odontoglossum Hunnewellianum, Oncidium ansiferum, and O. Phalænopsis Brandtiæ, a particularly large and handsome variety which received an Award of Merit.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Aldous), received a Cultural Commendation for Odontoglossum × excellens Rosslyn variety with a spike of ten very round and richly coloured flowers. It is one of the seedlings artificially raised by Messrs. Veitch.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. W. H. White), staged a pretty little group, consisting of the handsome Masdevallia × Pourbaixii with seven flowers, the richly coloured M. Veitchiana grandiflora, three plants of Epidendrum Endresii with an aggregate of nine racemes, E. varicosum, and the rare Sarcochilus Hartmanni.

J. B. Brookes, Esq., Finstall Park, Bromsgrove (gr. Mr. Drew), sent a good Odontoglossum crispum roseum.

John T. Gabriel, Esq., Palace Road, Streatham Hill (gr. Mr. Ranson), showed a very good form of Cattleya Trianæ called Gabriel's variety.

Dr. F. Hills, The Elms, Campbell Road, Croydon (gr. Mr. Wise), sent a good plant of the rare Odontoglossum brevifolium.

Mrs. Laura C. Joad, Patching, Worthing (gr. Mr. Standing), sent a very fine three-flowered inflorescence of Cymbidium eburneum and a plant of C. × eburneo-Lowianum.

Messrs. Hugh Low & Co., Enfield, staged a fine group, to which a Silver Banksian Medal was given. It contained an excellent Cattleya Mendelii, some very fine C. Trianæ, Dendrobium crystallinum, D. nobile murrhiniacum, Cœlogyne cristata alba, a fine Cymbidium × eburneo-Lowianum, Philænopsis × intermedia, and P. Stuartiana punctatissima, Odontoglossum triumphans, O. Edwardii, O × mulus, the pretty O. facetum, O. gloriosum with three large branched spikes, O. crispum, Lælia cinnabarina, Cypripedium × Swinburnei magnificum, and others.

Mr. T. Rochford, Turnford Hall Nurseries, Broxbourne, received an Award of Merit for a plant provisionally named Odontoglossum × Rochfordianum, apparently a form of O. Andersonianum with broad segments, much like O. crispum leopardinum in colour. He also sent a good Dendrobium nobile albiflorum.

Messrs. B. S. Williams & Son, Upper Holloway, staged a good group

containing several good specimens of Cœlogyne cristata alba, Phaius × Norman, the handsome Zygopetalum × Perrenondi, Odontoglossum crispum roseum, and O. c. flaveolum, Cypripedium × Harrisianum superbum, C. × Io superbum, and others. A Vote of Thanks was accorded.

Messrs. J. Laing & Son, Forest Hill, sent a nice plant of Cœlogyne cristata alba.

ORCHID PORTRAITS.

CYPRIPEDIUM × BEECKMANII.—*Gard. Mag.*, March 5, p. 145, with fig.

CYPRIPEDIUM × SANDERO-SUPERBIENS.—*Gard. Mag.*, March 12, pp. 168, 169, with fig.

DENDROBIUM NOBILE CŒRULESCENS.—*Garden*, March 5, p. 200, with fig.

DENDROBIUM × SCHRŒDERIANUM.—*Gard. Mag.*, March 5, p. 148, with plate.

EPIDENDRUM MEDUSÆ.—*Gard. Mag.*, Feb. 26, p. 132, with fig.

EPIDENDRUM XANTHINUM, Lindl.—*Bot. Mag.*, t. 7586.

LÆLIA AMESIANA CRAWSHAY'S VAR.—*Journ. of Hort.*, March 10, p. 205, fig. 32. A variety of Lælia anceps.

PHALÆNOPSIS × JOHN SEDEN.—*Gard. Chron.*, March 19, p. 171, fig 68.

ODONTOGLOSSUM × WILCKEANUM PITTIÆ.—*Journ. of Hort.*, March 17, p. 235, fig. 51; *Gard. Mag.*, March 26, p. 198, with fig.

ONCIDIUM SPLENDIDUM.—*Journ. of Hort.* March 3, p. 185, fig. 29.

PHAINS × NORMAN.—*Gard. Mag.*, March 19, pp. 185, 186, with fig.

ODONTOGLOSSUM CRISPUM BARONESS SCHRÖDER.—*Gard. Chron.*, March 19, pp. 164, 165, fig. 66.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

W. E., Newchurch. Oncidium lamelligerum. Several other species come in importations of O. macranthum.

C. Stoldt. We believe the flower is a form of Paphiopedium × Lathamianum, as the characters of P. villosum and P. Spicerianum are very pronounced, and we fail to trace anything else.

W. E., Newchurch. Dendrobium crystallinum.

G. M. L., Lincoln. Cymbidium pendulum and Oncidium luridum.

G. H. B., Sheffield. 1, Odontoglossum maculatum. 2, Phaius grandifolius.

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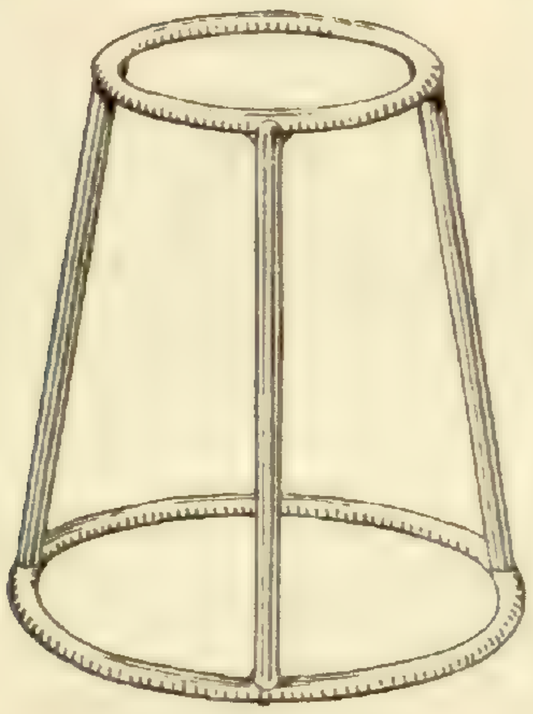

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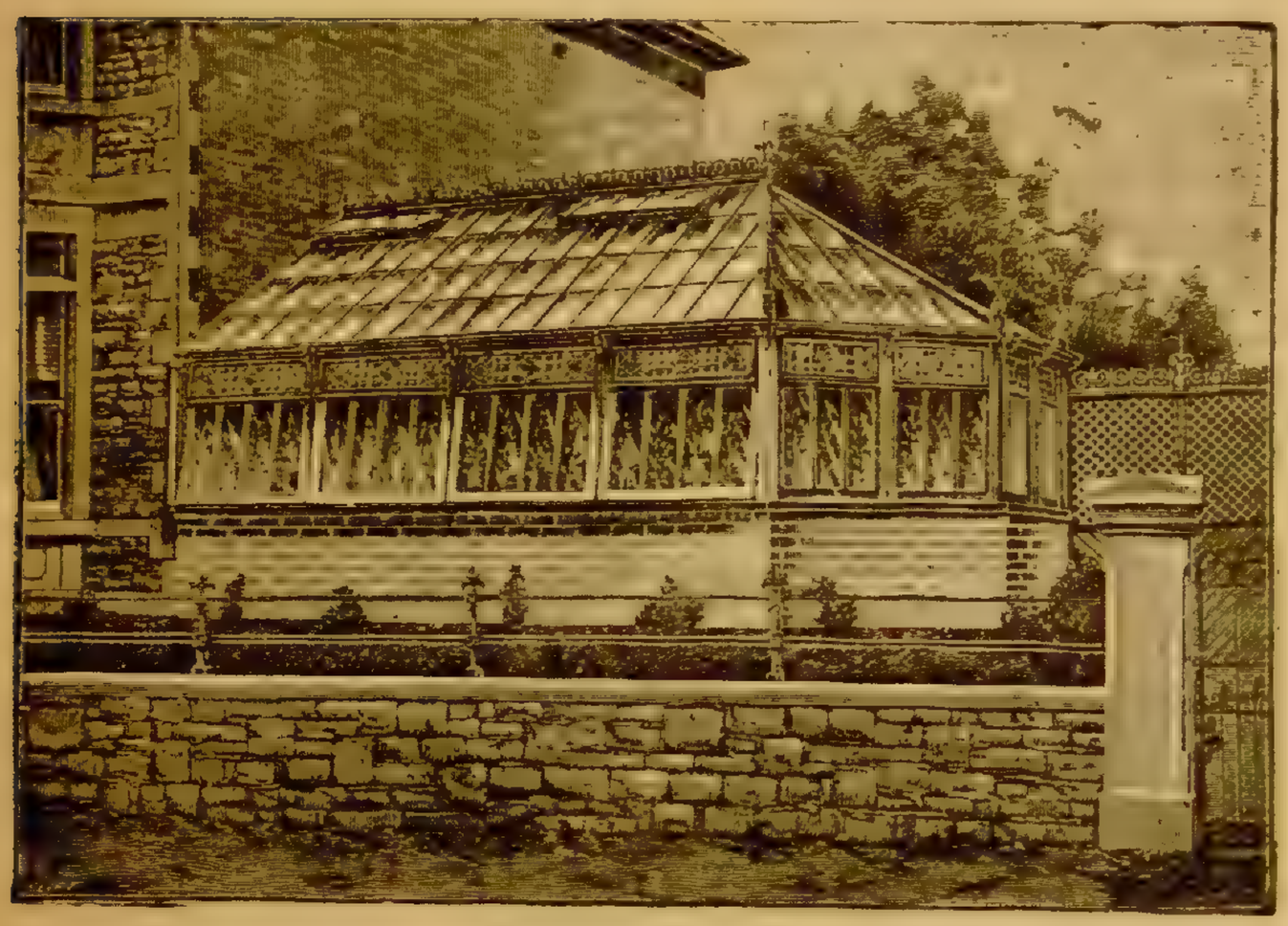

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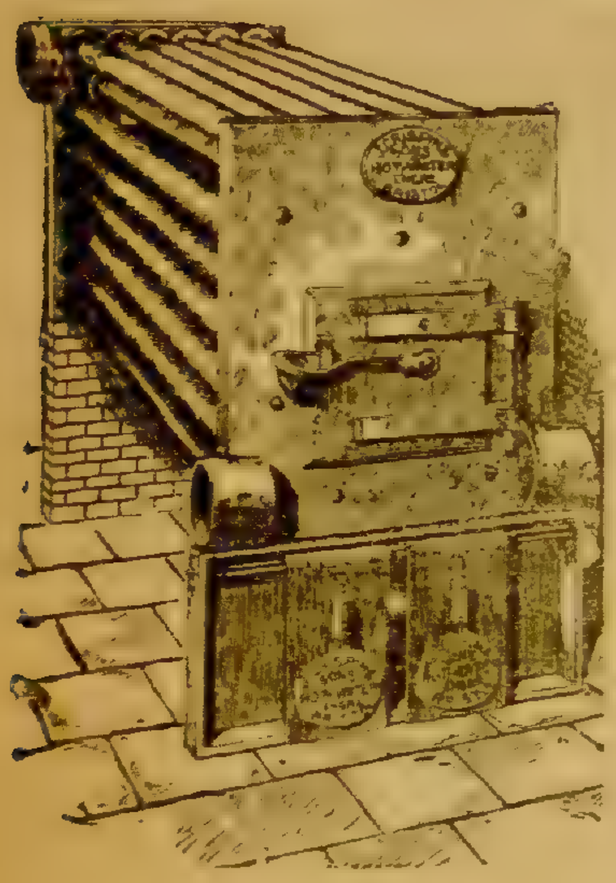

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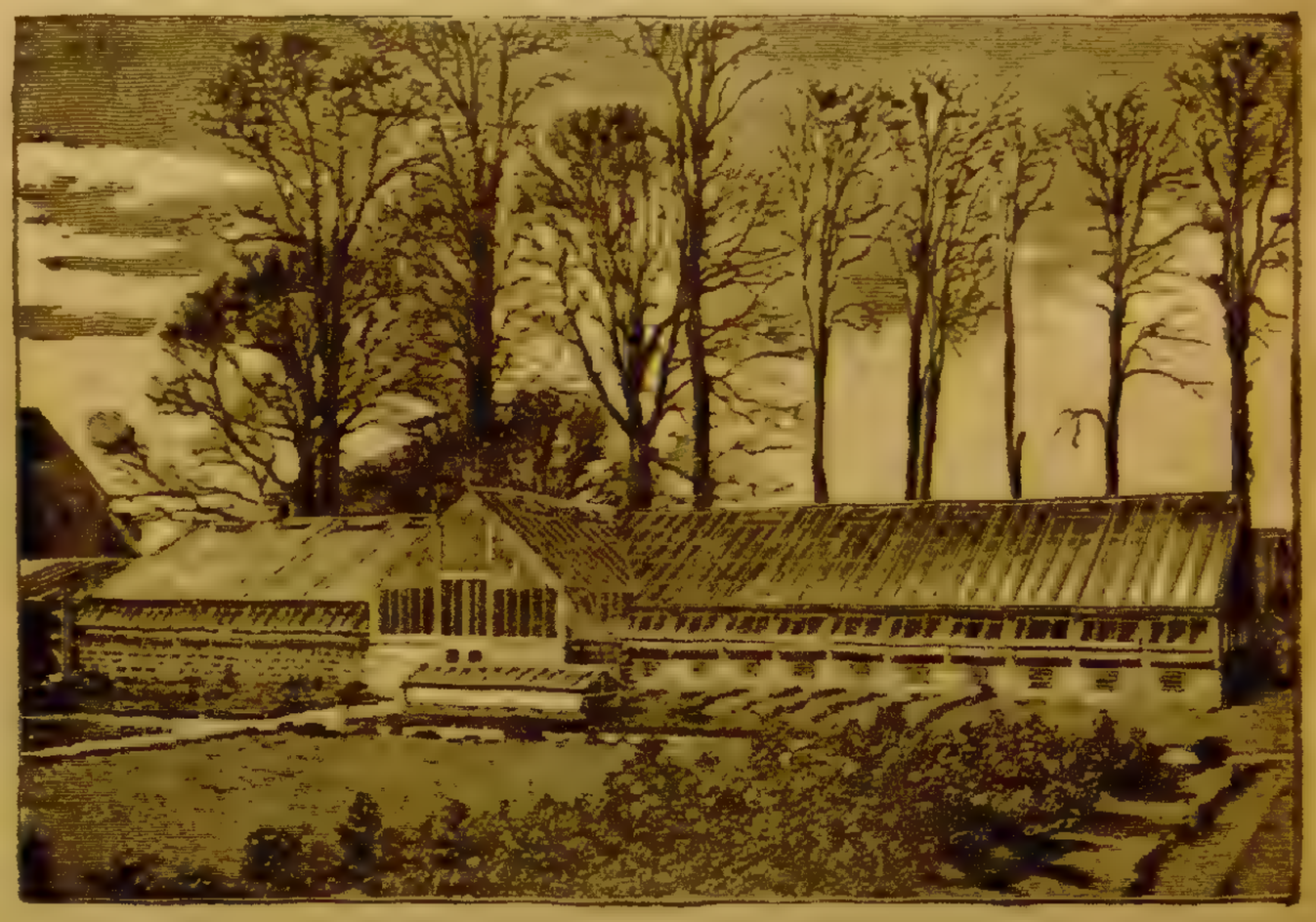

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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VOL. VI.] *MAY*, 1898. [No. 65.

NOTES.

THE next meeting of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, on May 10th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The great Annual Flower Show will be held, as usual, in the Inner Temple Gardens, Thames Embankment, on Wednesday, Thursday, and Friday, May 25th, 26th, and 27th. On the first day the Orchid Committee will meet at 11 a.m. Silver Cups and Medals will be awarded according to merit. Intending exhibitors must give notice to the Secretary not later than Thursday, May 19th.

Two meetings of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, during May, on the 12th and 26th, respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock, noon.

The great Whitsuntide Show of the Royal Botanical and Horticultural Society of Manchester will be held at the Old Trafford Gardens, Manchester, from May 27th to June 2nd. Orchids, as usual, are likely to be strongly represented.

It will be seen from an announcement in our advertisement columns that an important sale of duplicates from the celebrated Walton Grange collection will take place on Wednesday and Thursday, May 11th and 12th. Plants from this collection have often been mentioned in these pages, and the duplicates now offered include tha beautiful Cattleya × Victoria-Regina and Odontoglossum crispum Golden Queen, both of which we have figured, O. sceptrum aureum, and other fine things.

The shading of Orchid houses is an important matter at the present time, and we have received from Messrs. E. Spinner & Co., of Manchester, samples of their Khaki cotton netting, which is very light and strong, and seems admirably adapted for the purpose. It is mesh-like in pattern, light brown, and is made in two qualities. An advertisement appears in another column.

We have received photographs of two views taken in the collection of General Gillespie, of Brynderwen, near Usk, one showing a fine bank of Cattleyas, and the other a splendid group of Calanthes and Dendrobium Phalænopsis, with a few other Orchids, the culture in each case being excellent. These views are taken in a range of houses erected by Messrs. James Crispin & Sons, of Bristol, which are evidently well adapted for the purpose.

A fine four-flowered raceme of the handsome Dendrobium nobile Robsonæ, to which a First-class Certificate was given by the Royal Botanical and Horticultural Society of Manchester, on March 15th, is sent by Mr. John Robson, of Altrincham. The flowers are very large—the petals being over an inch across, and the lip, when expanded, still broader—and very brightly coloured.

A very fine flower of Cattleya Trianæ delicata is sent from the collection E. Hopper, Esq., of Morpeth, by Mr. Jones. Several others are said to have flowered in the collection, and they contrast very effectively with the coloured forms.

An infloresence of the beautiful white Vanda Denisoniana is sent from the collection of H. J. Elwes, Esq., Colesborne, Gloucestershire, by Mr. Lane, together with the handsome Miltonia Rœzlii and Dendrobium infundibulum, both of which are very effective at this season.

A particularly fine form of Dendrobium primulinum is sent from the collection of H. J. Elwes, Esq., Colesbourne, Gloucestershire, together with two of the typical form. Mr. Elwes remarks that the plant never grew well until one of the wires broke, and the plant hung with the pot sideways, after which it has made pseudobulbs from twelve to fifteen inches long. Several other fine Dendrobium flowers are also enclosed.

A good form of Dendrobium primulinum is also sent by F. M. Burton, Esq., Highfield, Gainsborough, together with light and dark forms of D. nobile.

A flower of Cattleya Trianæ alba is sent from the collection of Alfred Darby, Esq., Little Ness, Shrewsbury, one of twenty-three borne by the

plant, which must be very effective, though the flower sent is slightly below the average size.

Four beautiful varieties of Cattleya Schroderæ are sent from the collection of Joseph Broome, Esq., Sunny Hill, Llandudno, including the chaste C. S. alba. A second is about typical, a third similar but of exceptional size, while the remaining one is a very pretty light pink form. All have the characteristic orange disc and are deliciously fragrant. They were imported two years ago.

A good C. Trianæ which has been in flower a month, and a fine Lælia purpurata with a pink stain along the centre of the petals are also sent, together with Odontoglossum Hallii and its fine variety magnificum. All are superbly grown.

A very pretty form of Odontoglossum × Ruckerianum is sent from the collection of John W. Arkle, Esq., West Derby, Liverpool, the flowers being rose-coloured with very few spots.

A fine flower of the handsome Dendrobium × Venus is sent from the collection of W. S. M'Millan, Esq., of Maghull, Liverpool, being one of which a painting has been made by Mr. Mitchell.

A pretty hybrid Dendrobium is sent from the collection of F. Hardy, Esq., of Ashton-on-Mersey, by Mr. Stafford. It was raised from D. × Cassiope ♀ and D. Bensonæ ♂, and is fairly intermediate in character, though it preserves some of the light yellow colour and the disc of the latter. If it retains the free growing character of the former it is likely to be a decided acquisition, as D. Bensonæ soon deteriorates under cultivation.

Several very beautiful Odontoglossums are sent from the collection of W. Vanner, Esq., Camden Wood, Chislehurst, including O. crispum "The Queen," a very fine white with a single blotch in front of the lip's crest, taken from a racene of thirteen flowers; O. c. Duchess equally fine, with the sepals and petals suffused with light rosy purple and bearing numerous small darker spots, and O. c. "The Prince" much like O. c. guttatum, but with the petals wholly white.

Two good forms of O. × Wilckeanum are also enclosed, and a series of half-a-dozen O. cirrhosum, together with a noble form of Cattleya Mendelii. and a raceme of the beautiful yellow Spathoglollis gracilis.

Several good brightly-coloured forms of Cattleya Trianæ are sent by Mr. R. Jones, Barford Hall Gardens, Warwick, one of which it has been suggested is a natural hybrid, though we believe it to be only a variety, as no other Cattleya is known to grow intermixed with C. Trianæ.

It is proposed to erect at Brussels a monument to the memory of the late Jean Linden, in recognition of his services to horticulture, and a Committee has been formed to carry out the project, of whom Count O. de Kerchove de Denterghem is President; M. Kegeljan, Treasurer; and M. Lubbers, Secretary. Subscriptions in aid of the fund should be addressed to M. F. Kegeljam, Namur, Belgium.

ORCHIDS AT CLARE LAWN.

THE plants of Cymbidium Lowianum in the Rock house at Clare Lawn, East Sheen, the seat of Sir Frederick Wigan, Bart., have previously been noted in these pages, and at the present time they are a sight worth seeing. There are about eleven, mostly large plants, bearing an aggregate of 100 spikes of bloom, which hang over the rockwork in all directions, producing a most beautiful effect. Although placed at various elevations from the glass all seem to do thoroughly well, and it is evident that the conditions suit them admirably. The best spike we saw was of great length, and bore thirty-six flowers. Mr. Young must be congratulated both on their culture and very effective arrangement. C. L. concolor forms a pleasing contrast with the typical form, but the plant is at present small, bearing only two racemes.

Many other fine things are at present flowering in the collection, in the Cool house several plants of Odontoglossum Œrstedii, one with about sixty flowers, the handsome O × elegans, about twenty plants of O. Rossii, showing a considerable range of variation, the rare Epidendrum hastatum and Cymbidium Devonianum with two spikes, being interspersed with numerous specimens of the commoner things.

In the Warm houses we noted the rare Angræcum arcuatum, a fine Dendrobium veratrifolium with two long racemes, some good D. Bensonæ, D. nobile Hutchinson's var., a very good light-coloured form of large size, several good Oncidium ampliatum, Trichopilia suavis, and two well-flowered plants of its beautiful variety alba.

The Cattleyas were flowering in profusion, but we did not note them individually, and here was also a good plant of the richly-coloured Lælia × Latona, and the charming Epidendrum × Endresio-Wallisii.

Other interesting plants noted were Cypripedium Mastersianum with three good flowers, an exceptionally large and handsome C. Chamberlainianum beside the typical form, C. niveum giganteum, the pretty little Saccolabium ampullaceum, a very good Phalænopsis Lueddemanniana, and various others which we have not space to enumerate. In fact the collection is particularly gay at this season.

AN AMATEUR'S EXPERIENCES.

By EUSTACE F. CLARK, B.A., TEIGNMOUTH.

(*Continued from Page* 104).

AMONGST the plants added to my collection in 1894, and which passed with very little injury through the very trying cold of January and February, 1895, were such Intermediate house plants as Cypripedium barbatum, C. Boxallii and C. × Crossianum, Trichopilia tortilis (a plant received in place of the one killed in 1894), Vanda Kimballiana, Lycaste Skinneri, Maxillaria grandiflora, a *Zygopetalum*, probably intermedium, Odontoglossum Harryanum, Oncidium Saintlegerianum, O. incurvum and O. unguiculatum, Lælia anceps, and Lælia Dayana. The three plants last mentioned and also Odontoglossum pulchellum were in flower during much of the cold weather.

Though, during this long frost, the thermometer fell on one occasion as low as 16° outside (on 6th February), and the temperature in the greenhouse, in spite of the new boiler, ranged for several nights between 39° and 34° (the lowest reading being about 33° on the 1st February, when the fire went out in the early morning), nothing worse resulted than the loss of one or two developing flower spikes of Odontoglossum triumphans and O. Pescatorei, and the partial discoloration or spotting of a few leaves, particularly of Ada aurantiaca, Maxillaria grandiflora, and Trichophilia tortilis. A flower spike of Lælia anceps that was all right when in the greenhouse could not, when picked, stand the short journey in the cold air from the greenhouse to the house, but it had been out nearly three weeks. The Oncidium unguiculatum opened during the cold weather, and continued to produce its beautiful blossoms for some time after.

During the following summer, my plants, to which numerous additions were made from time to time till they occupied nearly the whole of the stage at one side of the large division, continued to thrive. Some, as Cypripedium barbatum, Trichophilia tortilis, *Zygopetalum* Mackayi, and Cœlogyne cristata, enjoyed having pans of water under the inverted pots.

Some of the cool Odontoglossums may have found the warm south house (though lightly shaded) rather trying in the summer, but in the winter the light probably assisted their ripening. Masdevallia Harryana throve beautifully, and flowered well in a sunny position, and its leaves were of a dark olive-green tint, without any black spots. I cannot say I have found any of my Masdevallias do so well in my present cool north house; they have suffered from thrip, and their leaves have become paler. I am inclined to think there is not now enough sunlight in winter except in a few favoured positions.

Great encouragement was given me by an article in the *Garden* of June

29th, 1895, entitled "How to popularise Orchid growing" (a reprint from a paper read by Mr. E. H. Woodall, of Scarborough, before the Royal Horticultural Society, on October 9th, 1894), in which the turning out of Cool Orchids into frames during the summer months is advocated.

I proceeded at once to act upon these suggestions, this seeming specially desirable, because the cooler Orchids in my greenhouse, which, with its southern aspect, could not fail occasionally to be heated to excess, though some light tiffany blinds were used in summer to break the power of the sun. I had a wooden tray made with a water-tight bottom, and placed in one of my frames, supported on bricks, and about two or three inches of water were then placed in it. In this I placed some inverted pots, and about the beginning of July there were removed to the frame two Odontoglossum Rossii, two O. crispum, one O. Pescatorei, and one Ada aurantiaca. In very dry and sunny weather the frame lights were kept down over the plants; though some ventilation was left on, and some matting was thrown over them to shade, wholly or partly, the plants in the tray; but at night, and in wet weather, the lights were entirely removed, and the plants thus got the benefit of any showers and night moisture. The good effects of this treatment were at once visible.

Towards the end of July I left Teignmouth for about a month's stay in the neighbourhood of London, and the Orchids were left in charge of a reliable man, Lewis Jackman, who came once or twice a week for a full day's work, but on other days for a short time only, in the morning and evening, to do any watering and shading, and to see to any ventilation that might be necessary. The experiment was slightly risky, but I cannot say that on my return I found anything the worse, and the Orchids in the frame were looking very well. Other plants were then also placed in the frame, and the majority were kept there till the colder nights made a return to the greenhouse advisable. These Orchids included Odontoglossum maculatum, O. cordatum and O. triumphans, Masdevallia Harryana, Epidendrum vitellinum majus, Bletia hyacinthina, and a few of the hardy Cypripedium spectabile. Amongst plants of other families liking this treatment I may mention Narcissi of the Bulbocodium group (especially N. B. citrina), N. cyclamineus, and Lachenalias.

In June, 1896, I left my residence at 2, Cross Park, Teignmouth, having arranged to take a house then in course of erection about a quarter of a mile off. I was able, before I left Teignmouth for a trip abroad, to remove all my Orchids to a newly-built Orchid house, erected by Messrs. James Crispin & Sons, of Bristol, a well-known firm of horticultural builders, in the garden of my new residence. It was in two divisions, separated by a wall. One part for Cool Orchids, with a soft water tank running the length of it, faced north, the other part faced south. The greater part of this I intended, at

first, to use for ordinary plants, but a small compartment was divided off by a door, in which I purposed essaying the cultivation of a few Intermediate Orchids. The whole of this south division has, however, since been converted into an Intermediate house; the plants needing greater warmth being put in the compartment aforesaid.

Similar arrangements were made for the care of my plants, during my absence from Teignmouth for about five months, to those which had been previously made, and on my coming into residence in the end of November I found most of the plants in a flourishing condition. It was then too late to make experiments in out-door or frame culture, but I am inclined to think some plants would have done better for a summer airing. Jackman, who had been left in charge, had given great care to the Orchids, as well as other plants, and had found the Cool house to suit the requirements of tuberous Begonias to perfection. There was therefore a grand show of these for a time, and apparently no harm resulted to the Orchids from being in the same house.

Shortly before my return to Teignmouth, I added several Intermediate house plants to my collection, amongst others a number of seedlings from the Selly Hill collection, then for sale by Messrs. Charlesworth & Co. These included three little plants purporting to be crosses with Selenipedium, namely, C. × Ashburtoniæ × S. × calurum, C. Spicerianum × S. Schlimii, and C. bellatulum × S. × Sedeni candidulum. The last mentioned has grown well, and seems healthy, but as it grows its resemblance to Selenipedium does not increase—in fact, it might be a cross of C. bellatulum and C. villosum. The other two plants for a time seemed only to go back, and to lose leaves and roots, but both seem now to be taking a sudden turn for the better, but "blessed is he who expecteth nothing."

Other Cypripedium seedlings had labels bearing dates in the early part of this decade and are still quite small, but the majority of these young plants have since grown well, notably one of C. concolor × villosum superbum, which shows no trace of the delicacy associated with C. concolor. It is quite intermediate in foliage. Other promising seedlings then obtained are C. Spicerianum × callosum splendens, C. × Harrisianum superbum × Leeanum superbum, C. Spicerianum magnificum × purpuratum, C. villosum superbum × Cleopatra, C. Leeanum superbum × œnanthum superbum, and C. × Harrisianum × Io maxima. None of these seedlings have yet died, and most have gone forward, and should bloom in a year or two.

The only one (C. × Lathamianum inversum × Spicerianum magnificum) that has flowered since (quite recently) proves to be a little disappointing, as it seems scarcely distinguishable from C. × Lathamianum. There was on this pot a record of seed sown of C. × Leeanum, good

variety, × C. Boxallii atratum, and a few little plants were visible in their first leaf. Since then about thirty more have appeared, some only recently, but the number now left is only fourteen, more or less thriving.

(To be continued.)

LYCASTE LOCUSTA.

THE re-appearance of some long-lost species is always interesting, and the above curious species has scarcely been heard of since it was described in Reichenbach's quaint phraseology nearly twenty years ago. He described it as "a Lycaste allied to L. costata and L. Barringtoniæ, with a white column, green sepals, green petals, a green lip, a green callus, a green ovary, green bract, green sheaths, a green peduncle, green bulbs, green leaves—just as green as a green grasshopper, or the dress of some Viennese ladies. It is nearly as satisfactory to study this group as it is to brush hedgehogs, but this species is better than the sister species; it is very well distinguishable by its very fleshy, short perigones, very short blunt mentum, convex disc of the anterior lacinia of the lip, and the two most sharp keels running between the side laciniæ. Flowers smaller and shorter than those of L. Deppei, the petals bent down inside the lateral sepals, thus making the perigone fully bilabiate. It was brought from Peru by Mr. Davis, and Messrs. Veitch have the satisfaction of flowering this novelty, which might create a surprising effect when brought before the court of the judges of the Royal Horticultural Society's Floral Committee, claiming a Certificate. If Mr. Seden would cross it with a pure white Lycaste Skinneri we might get a flower with a good Saxon flag, white striped with green, if things develop as we would have them." (Rchb. f. in *Gard. Chron.*, 1879, xi., p. 524.) A Peruvian species, which has just flowered with Mr. F. W. Moore at Glasnevin, obtained, I believe, from Messrs. F. Sander & Co., answers so well to this description that I do not hesitate to identify it with the original. The only difference which I can see is that the flower is larger than in L. Deppei instead of smaller, the sepals being 2¼ inches long. The colour is a dull olive green, of a slightly glaucous shade, and the fringe of the lip much paler. As colour is not the only desideratum at Glasnevin, I hope the species will not be so quickly lost sight of on this occasion.

It may be added that one of the most obvious characters of the group is the more or less distinctly fringed lip, and that about a dozen species have been described, though a few are still imperfectly known or have been somewhat confused together. L. cinnabarina is one of the most striking species, on account of the contrast afforded by the orange-brown lip with the greenish white or nearly ivory white sepals and petals. At present it is very rare in cultivation.

R. A. R.

ORCHIDS AT GHENT.

ORCHIDS formed a very prominent feature in the programme of the recent Quinquennial Horticultural Exhibition at Ghent, prizes being offered in no less than seventy-three classes, but as it proved in the sequel there were exhibits in only twenty-two of them, and as in several cases there was no competition, the work of the jury was rather light. In fact there was a general concensus of opinion that while the Show generally was an improvement on the preceding one, the Orchids showed a decided falling off in point of numbers, though the quality in most cases was well maintained. The Jury met at 9 a.m. on April 15th, and after an address of welcome from Count de Kerchove, the President of the Society, proceded to their labours. Two sections were devoted to Orchids (taking them in order of the official list) as follows:—Section Three; M. Madoux, President, Dr. Capart, Secretary, and Messrs. R. A. Rolfe, L. Duval, G. Mantin, and G. Warocque. Section Four: Mr. J. O'Brien, President, M. Martin Cahuzac, Secretary, and Messrs. A. Cogniaux, L. Grosjean, and A. Wincqz. **The following is the result of the competition:—**

The Gold Medal offered by H. M. the King of the Belgians, for the best and most varied one-hundred exotic Orchids was won by M. G. Vincke-Dujardin, of Bruges (the only competitor), with a splendid group of well-cultivated plants, the Odontoglossums being specially good. It included various fine forms of Odontoglossum crispum and O. × Andersonianum, O. × Wilckeanum sulfureum, O. cirrhosum, O. × elegans, O. hastilabium, O. polyxanthum, some good O. Pescatorei, O. Hallii, &c., Eulophiella Elisabethæ, Cattleya Schilleriana, very fine C. Schrœderæ, C. intermedia, C. i. Parthenia, C. Lawrenceana superba, Zygopetalum × Perrenoudi, Ada aurantiaca, Epiphronitis × Veitchii, Angræcum Sanderianum, Lælia harpophylla, Miltonia × Bleuana nobilior, a fine Masdevallia ignea with over fifty flowers, M. × Chelsoni, the striking Oncidium spilopterum, O. superbiens, the rare O. Cavendishianum with a good panicle of flowers, O. Harrisonianum, Cymbidium × eburneo-Lowianum, Cypripedium Rothschildianum, the rare C. Druryi, Lycaste Skinneri alba, and other good things which we have not space to enumerate.

The prize (Objet d'art, value five-hundred francs) offered by the Count de Germiny for the best one-hundred Orchids, to be judged solely from a horticultural standpoint, was unanimously awarded to M. A. Peeters, of Brussels (again the only competitor) for a superb group, excellent alike for quality, good culture, and tasteful arrangement, which it would have been difficult to surpass anywhere. Conspicuous in the group were half-a-dozen excellent examples of the richly-coloured Zygopetalum Perrenoudi, Phaius × Norman, P. × N. roseus, P. × N. aureus, P. × Cooksoni, Cochlioda

vulcanica, Miltonia × Bleuana nobilior, Cattleya Mossiæ Reineckeana, C. × Parthenia and a charming rose-tinted variety, C. Lawrenceana, Schrœderæ, Trianæ, amethystoglossa and Mendelii in excellent examples, Eulophiella Elisabethæ, Lælia purpurata, the brilliant L. × Latona and L. × Hippolyta, Odontoglossum triumphans, the rare O. brevifolium, some excellent O. crispum, O. Hallii, O. × Ruckerianum, the violet-coloured O. Edwardii in fine condition, O. × excellens, the brilliant Epiphronitis × Veitchii with five racemes, Lycaste Skinneri alba, Cymbidium Lowianum, Masdevallia Veitchiana grandiflora, fine examples of Oncidium sarcodes, O. Marshallianum, O. Forbesii, O. varicosum Rogersii, O. splendidum, O. leucochilum, and other fine things. A curiosity in the group was a plant of Odontoglossum × hebraicum with one yellow flower, while the remainder were cream coloured, but a closer examination showed that it had been fertilised, and this change of colour was one of the first effects.

For a group of fifty exotic Orchids (Amateurs), M. F. Pauwels, of Antwerp, was the only competitor, and was awarded the second prize (a Gold Medal worth one-hundred francs). The group contained a good Cymbidium Lowianum, Angræcum sesquipedale, the remarkable Coryanthes macrantha (in bud), Phalænopsis Schilleriana, Oncidium Marshallianum, a fine Dendrobium superbum, Odontoglossum Rossii majus with about thirty flowers, a very fine O. hastilabium, O. læve, O. Uroskinneri, O. Hallii, O. × Pauwelsianum, a pretty cream-coloured flower spotted with brown, and a lip recalling O. Hunnewellianum, from which it is suspected to be a hybrid, Cattleya citrina with six flowers, Lælio-cattleya × Schilleriana, Cypripedium villosum, C. Rothschildianum, a fine C. Chamberlainianum, Vanda tricolor, and other good Orchids.

For the best thirty Orchids (Nurserymen), M. Louis de Smet-Duvivier was first, with a finely cultivated group, including a very fine Cymbidium Lowianum, C. eburneum, a healthy clump of Warscewiczella discolor with four flowers, Selenipedium × Schrœderæ, Vanda suavis, Masdevallia ignea with about fifty flowers, M. Veitchiana, Cattleya Mendelii and var. rosea, an excellent C. Schilleriana, Dendrobium Dalhousieanum, Oncidium phymatochilum, Odontoglossum Edwardii, and various other Odontoglossums and other showy species, the group being very effectively arranged.

M. H. Vander-Straeten, of Bruges, secured the second prize, with a good group, in which Odontoglossum cirrhosum, Lycaste Skinneri alba, Cattleya Schrœderæ, Dendrobium clavatum, Oncidium Marshallianum, a good Cymbidium Lowianum, Cypripedium Exul with seven flowers, and C. × Calypso were the most noteworthy.

For the best fifteen Orchids in strong examples (Amateurs) a William's

Memorial Medal was offered, which was unanimously awarded to M. Metdepenningen, of Ghent (the only exhibitor), for a fine group, containing excellent examples of Trichopilia suavis, Oncidium sarcodes, Masdevallia ignea, Odontoglossum × Andersonianum, O. × Ruckerianum, Cypripedium Chamberlainianum, C. Lawrenceanum. and other good things.

For the most complete collection, limited to a single example of each species, M. A. Van Imschoot, of Mont-St-Amand, was the only exhibitor, but was unanimously awarded the Gold Medal for a group of ninety different kinds, including examples of most of those previously mentioned, together with numerous botanical and other rarities, as Dendrobium cymbidioides with eleven racemes, D. Kingianum, D. Devonianum, the rare and handsome Lycaste lasioglossa, Ansellia gigantea, Leptotes bicolor, Cattleya Lueddemanniana and others, Spiranthes colorata, Odontoglossum Œrstedii, Hunnewellianum and others, Eria floribunda, Epidendrum Stamfordianum and Cooperianum, Oncidium cheirophorum and incurvum, Angræcum sesquipedale, Cochlioda rosea, Masdevallia triangularis and amabilis, Phalænopsis Boxallii and Lueddemanniana, Cypripedium tonsum, and others, which we have not space to enumerate, and attracted much attention. The group was a specially interesting one.

For three exotic Orchids remarkable for culture and floriferousness, there was only one exhibit, and here the first prize was withheld, the second going to M. L. De Smet-Duvivier, for Oncidium sarcodes with five branching spikes, Odontoglossom luteopurpureum with two spikes, and a fine Cymbidium Lowianum.

For the best Cattleya the first prize went to M. Langhe-Vervaene, of St. Gilles, for a good Cattleya Schrœderæ with about twenty flowers.

The class for the best Lælia likewise yielded only a single exhibit, a plant of L. Digbyana with one flower, which secured the prize for M. Ch. Maron, of Brunoy.

For the best Dendrobium, M. L. De Smet-Duvivier, of Mont-St-Amand, was first, with a good Dendrobium thyrsiflorum, rather past its best.

For the best Cypripedium, M. J. Moens, of Lede, was first, with a fine plant of C. × Annie Measures.

For the best Odontoglossum crispum the first prize went to M. Metdepenningen, of Ghent, with a beautiful example of the large unspotted type.

For the best Odontoglossum (other than O. crispum) there were two competitors, M. Metdepenningen securing the first prize with O. × Wilckeanum Madame Metdepenningen, a compact form with very round, handsomely spotted fiowers. and W. Thompson, Esq., of Stone, the second, with O. Hallii bearing nine racemes, a noble specimen which would have fared better in a class for good culture.

For the best Oncidium, M. L. De Langhe-Vervaene, of St. Gilles, staged a grand Oncidium sarcodes, with a spike about 5 feet high, which gained the first prize. The plant had been grown entirely in leaf mould.

For three new hybrids of different genera, M. A. Van Imschoot staged good specimens of Masdevallia × Pourbaixii, Epidendrum × Endresio-Wallisii, and Cattleya × Alberta (Loddigesii × superba), which gained the first prize.

For the best new generic hybrid, M. Ch. Maron, of Brunoy, staged Lœlio-cattleya × Henry Greenwood (L.-c × Schilleriana × Cattleya × Hardyana), a very handsome form, with rose-tinted sepals and petals and a rich crimson-purple lip, with large, deep yellow throat, and secured the first prize "by acclamation."

For 25 Cypripediums and Selemipediums (Amateurs), M. J. Moens, of Lede, secured the prize, his group containing the handsome C. × Leeanum Albertianum, C. × Hebe, the dark C. × Chas. Madoux, C × Harrisianum violaceum, nine good C. × Niobe, a fine specimen of C. × Sallieri, and other good things.

In a similar class for Nurserymen, M. Pynaert Van Geert staged a particularly fine group, which was awarded a gold medal. It contained a splendid specimen of C. Mastersianum with 17 flowers, the beautiful C. bellatulum album, C. × Godseffianum, C. Exul with 10 flowers, a fine C. × nitens superbum, C. × Calypso, a fine C. Lawrenceanum, C. × vernixium, C. Dayanum, and others more or less familiar, in excellent condition.

For the best 6 Vandas, M. Vincke-Dujardin, of Bruges, secured the Gold Medal with fine varieties of V. tricolor and suavis in excellent condition.

The class for 10 Anœctochilus and allied genera brought out two competitors, M. Pynaert Van Geert securing the first prize with A. xanthophyllus, A. setaceus, some remarkably fine Macodes Petola, Goodyera Rollissoni, &c., and M. A. Dalliere, of Ledeberg, the second, also with well-grown plants, among which some examples of Macodes Sanderianus were particularly good.

The Gold Medal for the best 30 Odontoglossums was awarded to W. Thompson, Esq., of Stone, "by acclamation," for a superb group, the plants being healthy and vigorous, with large plump bulbs, and very strong inflorescences of the finest possible flowers. In fact, these Odontoglossums were unrivalled in the show. They included O. crispum Annie, O. c. leucoglossum, O. c. Thompsoniæ, O. sceptrum waltonense, with two racemes, the best bearing 19 flowers, some very fine O. luteopurpureum, including O. l. hystrix with three spikes, the best having 17 flowers, O. × Coradinei expansum, some excellent forms of O. × Wilckeanum, including O. × W. nobilior bearing a spike of 23 flowers and buds, a magnificent

O × Humeanum splendens, O. Rossii majus profusely flowered, some good O. Pescatorei, triumphans, × Andersonianum and × Ruckerianum, also Miltonia Roezlii (formerly called Odontoglossum) with 10 spikes.

For 15 Odontoglossums, limited to Amateurs, M. Metdepenningen was awarded the first prize, the group containing some good O. crispum, Pescatorei, Rossii majus, gloriosum, × Andersonianum, &c.

This concludes the competitive classes, and it will be seen that in many cases only one group put in an appearance. It is very curious that classes for the best Aërides, Angræcum, Anguloa, Calanthe, Cœlogyne, Cymbidium, Lycaste, Masdevallia, Miltonia, Phalænopsis, Saccolabium, Sobralia, Stanhopea, Trichopilia, Vanda, and Zygopetalum, not to mention others, should all have failed to produce an exhibit. A Gold Medal offered for the best Orchid-house also failed to stimulate competition.

A Special prize, consisting of a Silver Medal, was awarded to M. J. Buyssens, of Paris, for water-colour drawings of Orchids, and to Messrs. Cogniaux and Goossens for their *Dictionnaire Iconographique des Orchidées*.

Messrs. Linden, of Brussels, exhibited a fine group of plants in memory of the late Jean Linden, which included the following Orchids originally discovered or introduced by him: Cattleya Trianæ, Masdevallia coccinea, Odontoglossum luteopurpureum, O. odoratum, O. Pescatorei, O. triumphans, Oncidium Phalænopsis, and Uropedium Lindeni.

M. Ch. Maron, of Brunoy, Paris, sent a most interesting group, consisting of Lælio-cattleya × Berthe Fournier (L.-c. × elegans × C. aurea) with a spike of yellowish-rose flowers not fully expanded, three plants of L.-c. × intermedio-flava, a very distinct and pretty hybrid, and about a dozen plants of Cattleya × Louis Chaton (Trianæ × Lawrenceana) a very brilliant hybrid most like the latter.

M. P. Langhe-Vervaene, of Brussels, sent a group of five fine plants of Oncidium sarcodes, with spikes four to five feet high. They were grown in leaf-mould, and potted like an ordinary plant with a few crocks at the bottom of the pot, and watered freely when growing, but afterwards kept rather dry.

M. A. Van Beerlere, of Ghent, staged a small group of Odontoglossum crispum, excellent both for quality and culture, and a very handsome O. × Ruckerianum.

Carl Lachner, Berlin, showed Cypripedium villosum variegatum, the leaves being irregularly banded with white.

Messrs. F. Sander & Co., St. Albans and Bruges, exhibited Odontoglossum crispum Roi Leopold, a very beautiful form with cream and white flowers tinged with rose, and bearing numerous small reddish-brown spots all over; Lycaste Skinneri Baroness Schröder, with delicate blush sepals, a white lip, and petals marbled with purple, six well-grown L. S. alba, and

Anœctochilus Leopoldi, a very robust Philippine species, the largest leaves being six inches long, beautifully veined like Macodes Sanderiana, and with a broad light band up the centre.

MM. Duval et fils, Versailles, brought on the second day a good typical Odontoglossum × mulus, the panicle bearing four side branches and an aggregate of 19 flowers.

Among groups of miscellaneous specimen plants we noticed several fine Orchids, including Cymbidium Lowianum, Lycaste Skinneri alba, Oncidium sarcodes and ampliatum, Masdevallia Veitchiana, Odontoglossum luteo-purpureum and Macodes Petola, some of them being the finest specimen Orchids in the show.

ORCHIDS IN SEASON.

MAY has always been known from the most prehistoric times as the month of flowers, but could we add to it, taking into consideration the charming display now made with our favourites, we should call it the month of the beautiful flowers, for it is a fact that May in the Orchid houses is the most productive time of the year. Out of doors the sweet zephyrs have with their mild breath dispelled the frosts and given back to our forests and woods their beautiful foliage; our gardens also are already splendidly decorated with their spring ornaments, and it is the same in our houses, all the spring flowering varieties being now in full bloom and forming with their colours most harmonious contrasts.

We shall now take our monthly look round and see which of our plants are favouring us with their welcome blossoms during the present month.

At the moment of writing the Cool house is actually in all its beauty, and numerous are the Cœlogynes, Cymbidiums, Epidendrums, Odonto-glossums, Adas, Miltonias, and Sobralias, which are to be seen. It can hardly improve, for April is its best time, though a few other interesting things are showing. Well worth growing is the beautiful Cypripedium spectabile, especially the white form, Masdevallias are also promising; M. bella is still flowering, the curious M. Carderi, M. coccinea and its variety Harryana, the curious M. demissa, geminata, ionocharis, and the very characteristic M. Rolfeana and Wageneriana, all of them requiring the warmer end of the Cool house. Oncidium macranthum and superbiens will open their showy flowers during the month, and a few more Odonto-glossums are blooming, but their season is drawing to a close.

The Intermediate house will reach perfection, for beside the bright blossoms that it already possesses, many other plants will soon be in full bloom. Anguloa Clowesii and uniflora, which were previously mentioned

as showing are now flowering. Brassavola Perrinii and grandiflora are also worth growing on account of their free blooming quality.

Two quite distinct Lycastes are L. aromatica and Rossiana, which are both easily grown if well rested. A few Maxillarias are blooming, chiefly M. rufescens, sanguinea, tenuifolia and Sanderiana, etc. The Miltonias, of which we mentioned the spikes last month, are now opening their first blooms, viz: M. spectabilis, vexillaria and its variety Klabochorum. Charming also are the pendulous spikes of Odontoglossum citrosmum. Amongst Oncidiums a few others are showing, as O. caminiophorum, candidum, the pretty exasperatum, ornithopodum, and the free blooming pumilum. Trichopilia laxa is also promising, as are the two distinct species of Promenæa stapelioides and xanthinum, with their small dusky purple and yellow flowers. A few Oncidiums and Cypripediums must also be mentioned.

The Cattleya house is also a gaily decorated department, containing C. Schrœderæ, intermedia, Mendelii, Lawrenceana, citrina, and Skinneri, with the rich Lælia cinnabarina, and Epidendrums, as evectum, Wallisi, and elongatum. A few more Cattleyas will soon be seen, notably the difficult growing C. Aclandiæ, the free blooming C. Mossiæ and Warneri, the latter sometimes called the spring labiata, and the beautiful C. dolosa, which lasts in perfection for over a month; also the two bright Dendrobiums chrysotoxum and thyrsiflorum. Several well-known Epidendrums are also promising, viz: E. bracteatum, equitans, variegatum and vitellinum majus. Two other distinct things coming into flower are Gongora gratulabunda with its long pendulous racemes, and Habenaria rhodochila with its bright colour. Lælias are also in season, notably the brilliant L. cinnabarina, and strong sheaths of the old L. purpurata are throwing up bunches of five or six flowers. L. grandis and L. tenebrosa are also expected shortly.

The Warm house possesses also some bright stars. The numerous Dendrobiums and Cypripediums, the showy Eulophiella Elisabethæ, Chysis bractescens, and Rodiguezia fragrans, are some of those which we always regret when they once again disappear. This house will also soon reach its perfection, for May is in some respects the best month for Dendrobes, very few flowering afterwards, considering the total number of species. The beautiful but difficult to grow D. Bensoni is now showing, also D. Dearei, Gibsoni, Calceolaria, and podagraria are all pushing up. Several Aërides are sending forth their spikes, viz: A. Fieldingii, Houlletianum and multiflorum Hughii. The two free flowering Calanthes × Dominii and veratrifolia, are in bloom. A few Cœlogynes are also flowering, viz: C. ochracea, Schilleriana and Swaniana. Cryptochilus sanguinea is a species worth growing, and Cymbidiums Finlaysonianum, pendulum and

eburneum will succeed C. Lowianum. In regard to Cypripediums, a few more are pushing up, the distinct C. niveum and bellatulum, with the showy C. Curtisii, Rothschildianum, and Selenipedium caudatum Wallisii. Megaclinium falcatum and minutum are two pretty West tropical African species. The showy Grammatophyllum Rumphianum is sending forth its spike also. Some Thunias are also very promising, and ought to be more extensively grown in collections, chiefly T. alba, Bensonæ, Brymeriana and × Veitchiana, which are all easily cultivated if well rested. Platyclinis longifolia is also to be seen, also the beautiful Rhynchostylis retusa. Very handsome are Saccolabium gemmatum, miniatum, and longicalcaratum. The sweet scented Sarcochilus aureus is worth growing, but it is unfortunate that its flowers do not last more than a day. Scuticaria Hadwenii and Steelii are beginning to show their flowers, which can be kept for a month if placed in a drier atmosphere, and a few Vandas will shortly decorate our warm department, *viz*: the brilliant V. teres, suavis, and tricolor.

We have partly excluded botanical Orchids from our monthly narration, but an account of these appears under another heading, for many of them are very interesting, though they cannot hope to rival the more showy species.

ODONTO.

ORCHIS MONOPHYLLA.

A VERY interesting and pretty species from Upper Burmah, which flowered at Kew in the early part of last year. It has been known for some time from dried specimens, having been collected by General Collett in 1888, on the Shan Hills, at an elevation of 4,000 feet. It was originally described as Habenaria monophylla (Coll. and Hemsl. in *Journ. Linn. Soc.*, xxviii, p. 134), but on examining the living flowers I find that the glands of the pollinia are enclosed in little sacs, precisely as in Orchis, to which genus it must be transferred. The leaves are exceedingly handsome, being marbled with blackish purple on a grey green ground, and although normally solitary, a second one is occasionally developed. The plant is about a foot high, pubescent, and bears an erect many-flowered raceme of lilac-purple flowers, with some darker purple spots on the three-lobed lip, and a curved spur. Except in the leaf it bears a good deal of resemblance to some of its European cousins. The extension of the genus to Upper Burmah is interesting, though it was previously known to reach the Himalayas and Japan.

R. A. R.

CATTLEYA QUADRICOLOR.

CATTLEYA QUADRICOLOR and C. chocoensis were both originally described as distinct species, and afterwards considered to be merely forms of C. Trianæ, but the receipt of some interesting flowers and photographs from Dr. A. M. Hoisholt, of Stockton, California, has led to a re-consideration of the question, and an alteration in their arrangement. The latter was indeed omitted from the revision of the genus Cattleya (*ante*, vol. iii., pp. 266-270) on account of some additional information which there was not time to sift, but it now appears to be synonymous with Lindley's original C. quadricolor, and quite distinct from C. Trianæ. A very interesting article, entitled "Cattleya chocoensis at home," by Mr. John E. Lager, in the *Florists' Exchange*, was reproduced in these pages

FIG. 5. CATTLEYA QUADRICOLOR.

(*ante*, vol. ii., p. 307), and this, with some supplementary notes (vol. iii., p. 358), established the fact that the species which it describes is a native of the western chain of the Andes, along the Rio Cauca, from Tulna down to the neighbourhood of Fredonia and Concordia, in Antioquia, at about 2,000 to 3,600 feet above sea level (not in the Choco Valley at all), and quite apart from C. Trianæ; while its botanical features are equally well marked. Its identity with C. quadricolor is also sufficiently clear. The earliest mention of the latter plant is in *Paxton's Flower Garden*, 1850 (vol. 1, p. 6), where, in a note under C. labiata, Lindley remarks:—"There is a C. quadricolor in the possession of Mr. Rucker with which we are not

sufficiently acquainted to say how it differs from the last." Lindley had received it for name in February, 1849. Fourteen years later a description was published by Bateman (*Gard. Chron.*, 1864, p. 269), who remarked :— "This beautiful Cattleya is quite distinct from every previously known species of this genus. A single plant of it was introduced many years ago by Mr. Rucker from New Granada, and to his kindness I am indebted for the specimen that is now (March 1st) flowering at Knypersley, and from which the above description has been drawn up." He then alludes to a dried flower and sketch in Lindley's Herbarium, the former being correct, but the latter was made by Lindley from a flower sent by Hadwen in May, 1853, from a plant received from the Rio Negro. This Lindley wrongly identified with his earlier C. quadricolor, but it belongs to C. Eldorado (which was not described till long afterwards) as both the coloured sketch and the dried flower from which it was prepared show. In 1865 Bateman's plant was figured in the *Botanical Magazine* (t. 5504), where we get the additional information that Mr. Rucker originally obtained it from a correspondent who met with a single plant on the upper waters of the Rio Magdalena—which, in the light of recent information, we may infer to have been the Rio Cauca. Bateman also remarked that the segments "do not spread themselves out as freely as those of most other Cattleyas do," and that up to the present time he had "seen no Cattleya with such closely imbricated white flowers," which, taken in conjunction with the fact that no other plants had yet appeared, raised the question whether it were not a peloria of some other species; finally adding :—"Whether or no C. quadricolor itself will have to be added to the list of cancelled species is a question that time only can determine." In 1868 Gustav Wallis, when collecting for Mr. J. Linden, sent home a fine lot of Cattleyas from the Rio Atrato, which received the name of C. chocoensis in 1870 (André in *Ill. Hort.*, xvii., p. 37), and three years later a plate appeared showing six differently coloured forms (*l.c.*, xx., p. 43, t. 120). It was described as not only a new type, but a veritable tribe of varieties, in allusion to the variation in colour; the campanulate shape of the flowers, owing to their petals being sessile and broad at the base, were also well pointed out, and this character is well seen in all the figures above cited, as well as in our present one, which is reproduced from a photograph sent by Dr. Hoisholt. Dr. Hoisholt's plants were collected by Mr. John E. Lager, and show much variation, one having a stripe in the petals, and another being the nearest approach to an albino that we have met with, having a little of the faintest possible tint of blush in the throat, round the yellow disc. Althongh this Cattleya is not equal to C. Trianæ in point of beauty, its distinctness seems now to be fully established, on which account we hope to see it better represented in collections in future.

BOTANICAL ORCHIDS.

MANY very interesting and even striking species of Orchids never seem to become generally cultivated, either from their rarity, because not very showy, or, in a few cases, because difficult to cultivate. Strictly speaking the first and last may not always be botanical species, though they are usually classed among them, but among the remainder are many very attractive little plants of the easiest culture if only grown with their showier cousins from the same country, and treated in a similar way. Many of them are exhibited from time to time, especially by Sir Trevor Lawrence, whose group at the Temple Show is invariably more interesting through their presence, which forces the conclusion upon us that these plants deserve a little more attention generally, as they would amply repay the little trouble required.

The pretty Bartholina pectinata, mentioned last month, is very remarkable with its divided lip consisting of numerous radiating filaments of a bluish colour, and like all South African bulbous plants, it requires a period of rest, coinciding with our winter months. A mixture of fibrous loam, leaf mould and sand, seems to answer very well if grown in a cool place. Calopogon pulchellus is a very characteristic species, and is the only cultivated one of the genus. It possesses purple flowers with a fine yellow beard of hairs growing from the lip, and needs the same treatment as the above-mentioned species. Calypso borealis, now in flower, is very pretty. It is a native of the northern hemisphere, not exceeding 4 inches high, and extremely sweet-scented. The flower is of a delicate rose colour, and possesses a lip resembling Cypripedium in some respects. It requires light sandy compost, and thrives very well in a cool shady place. Holothrix villosa and Disperis capensis are two interesting species belonging to the South African Flora, which thrive very well if treated like the previously mentioned plants.

A large number of botanical species are found in the warm regions, and they require Intermediate house treatment. Cœlia Baueriana is a West Indian and Mexican species, which should be grown in pots in a mixture of peat and sphagnum. It flowers annually, and is very fragrant. Eria confusa, and E. excavata are two free blooming Indian species, easily grown like Dendrobiums. Epidendrum Linkianum is a pretty little Mexican species which succeeds very well in the Cattleya house. Masdevallia erythrochæte is a profuse bloomer when well grown, the flowers being yellowish, with reddish brown tails. Maxillaria Houtteana, with its deep red blooms, is well worth growing.

A few Pleurothallis are also worth cultivating, and the four following species are now to be seen in flower:—P. longissima, a very handsome

species when well cultivated, P. villosa, not exceeding four inches high, with its darkish flowers under the leaves; the curious P. sicaria, and finally the striking P. Scapha. They all thrive under similar treatment. It would be worth trying to cross such a variety as P. longissima with one of the coloured species of Masdevallia. The result ought to be interesting. Physosiphon is another pretty tropical American genus, represented in cultivation by only a few species. P. Moorei and Loddigesii are distinct varieties, free blooming and extremely easy to grow. Restrepia ophiocephala is remarkably distinct from its allies, some of which are very charming little plants.

Polystachya pubescens and zambesiaca are also showing for flower. The former is a free growing species when treated like Burlingtonia. P. laxiflora is a West Tropical African species now in flower.

Scaphosepalum is closely allied to Masdevallia, under which the species were formerly classed. Some of them are very free blooming, and continue to flower for two or three months. They require the same culture as Masdevallia.

Amongst warm house species, only a few are now showing, as the easily grown Bulbophyllum occultum, native of Mauritius, and the small Cirrhopetalum compactum, which, when grown in baskets, flowers annually. Cottonia macrostachya is a very curious species requiring the same treatment as Vanda. Ornithidium nanum is a tiny West Indian species which flowers regularly every year. Goodyera procera is a Tropical Asiatic species with spikes of minute white flowers. We hope to mention this subject again, when other interesting favourites are in flower.

If any one desires to make a selection of these interesting little plants they will find abundance of materials to select from, among the genera Angræcum, Bulbophyllum, Cirrhopetalum, Megaclinium, and many others, both epiphytic and terrestrial, which would impart additional interest to their collections.

ODONTO.

CALENDAR OF OPERATIONS FOR MAY.

By H. A. Burberry.

THE summer temperatures should now be maintained, as a general guide for which the following figures may be of some assistance :—

COOL HOUSE.—This department should simply be kept as cool as possible both day and night. Plenty of air admitted during the cool of the night is most beneficial to this section of Orchids. Heavily shade from the sun, and keep the surroundings moist by damping down at intervals.

INTERMEDIATE HOUSE.—Temperature : Day, with sun heat, 75° ;

without sun, 65° to 70° ; night, 65° ; morning, 55° to 60°. Well shade from the sun ; keep a good supply of moisture by damping down at intervals ; keep the atmosphere pure and fresh by admitting air judiciously, and, if possible, have the hot-water pipes just luke-warm at night to promote circulation.

East Indian House.—The above remarks apply also to this department, the temperatures of which should be : Day, with sun heat, 85° to 90° ; without sun, 70° to 75° ; night, 70° ; morning, 60° to 65°.

Dendrobium infundibulum and D. Jamesianum are species that grow best in the coolest house. They will now be in flower : after which, if repotting is required, it should be done, using small pans or baskets for the purpose. This is a good time of the year for doing up the Stanhopeas, putting them in larger baskets if they require it ; otherwise they are best if not disturbed at the root. They should always be grown in baskets without crocks of any kind at the bottom, in order that the flower spikes which always come through the bottom, may have a clear road. The compost should consist of peat two parts, and sphagnum moss one part. They are fond of a fair amount of warmth.

Cymbidiums should be attended to as soon as they pass out of bloom, and now is a good time to do the requisite re-potting. The best compost is two parts of lumpy peat, not necessarily the best fibrous, and one part of turfy loam, adding thereto a liberal quantity of silver sand, and surfacing here and there with a bit of live sphagnum, which will grow and add to the general appearance. Let the pots be well crocked to about one-half their depth. They are cool growing Orchids, and should occupy the coolest house.

The Coryanthes, Catasetums, and Mormodes should now be basketed up. These species are fond of warmth, especially while growing, and are particularly fond of fresh material about their roots, so that they should never be allowed to get into a sour condition. Sphagnum moss alone may be used for these species, as they grow equally as well as when peat is added, and it is always well to save the peat when possible. They should always be grown in baskets or pans, and care must be taken not to over-water. The above remarks also apply to the curious Swan's Neck Orchid, Cycnoches chlorochilon.

If the Odontoglossum citrosmums are not now producing their flower spikes from the centre of the new growth, they will probably not do so this year, and they should be watered and grown on. Re-pot any that are overgrowing their pots or baskets, using chiefly peat, and pressing the same in firmly. Surface with sphagnum moss here and there, which will grow and form a better criterion as to when water is required. Expect to see the pseudobulbs shrivel a little after root disturbances.

Cyrtopodiums are now starting to grow. These species are rather shy bloomers, and rarely do so until very fine large bulbs have been grown, which in their turn have been thoroughly well rested throughout the winter. The flower spikes should now soon be showing. They appear from the new growth when it is about two inches high. The plant should therefore be stinted with water in order to force the spike. Should the growth push rapidly and commence to produce its leaves, the spike need not be expected, and the plant may be watered and grown on in a warm, sunny temperature. Proceed with the required re-potting in all directions wherever possible, remembering that the roots are now getting very active, and the sooner the potting is done the more quickly will the plants again become re-established and settle down to grow. Never forget to well shade recently-potted plants and to keep pretty well of moisture about them.

What a beautiful flower! I wonder if I could grow it? I wish I knew for certain if there is any probability of my being able to grow so-and-so under my existing conveniences. Such are the questions, the doubts and uncertainties one sometimes hears. I will try and answer these questions and trust that my remarks may be of some use to all whom it may concern.

Under the simple and easily obtainable conditions which I shall hereafter describe, it is really wonderful what an enormous quantity of different species of Orchids can be collected from various parts of the world into one or two small houses and there succeed well together, growing and flowering freely. There are two important groups, generally known as *Intermediate house Orchids* and *Cool house Orchids*, which chiefly differ in the former's requiring more warmth during the summer months, when they are making their growth, or in other words, their growing season in their native habitats is much warmer than their winter or resting season. With the latter section there is but little climatic difference between winter and summer, or their growing and resting season, it is, I have been told, like one perpetual spring.

Now, regarding the warmer section, the extra warmth preferred when growing offers no difficulties, as nature supplies us with that in the form of increased power and warmth from the sun. We may maintain during the summer almost any degree we want, and, in fact, if we don't pay due attention to little details such as shading and ventilating, it is quite easy to have too much warmth. Now, in order to grow both of these sections up to a high standard ot excellence, it will at once be seen that there should either be two separate houses or one house divided off in the centre by a glass partition, so that the one department may be given more warmth during the summer months than the other. In other words the one may during summer resemble the Intermediate house and the other the Cool house, but during winter, both departments should resemble the Cool house, and the same amount of hot-water piping will therefore be suitable for both

departments. I may also mention here that no great alarm need be felt about the night temperature in the warmer house falling as low as that of the cooler one during summer. So long as more warmth is given during the day, and the house shut up earlier in the afternoon, the plants will go on well enough. It is quite natural for the temperature to fall at night in their native habitat. Those belonging to the warmer section of cool-growing Orchids are too numerous to mention separately, but may be briefly indicated as follows: In the first place, I may say that it includes most of those beautiful and glorious things belonging to the genus Cattleya. There are a few, however, that should be excepted, such as C. Eldorado, C. Lueddemanniana (speciosissima), C. superba, C. Aclandiæ, and C. Dowiana, which are really better for more warmth during the winter. It also embraces most of the lovely species of Lælia and many of the Vandas as the beautiful V. cœrulea, V. Amesiana, V. insignis, V. Kimballiana, and V. suavis, in fact, nearly all the genus. A few of the Aërides, such as A. odoratum, A. Lobbii, A. japonicum, A. Fieldingii, A. crispum, and A. Vandarum. A great quantity of Cypripediums and Selenipediums may be classed in this group, the only exceptions being those that come from the hot lowlands, such as C. phillippinense, C. Sanderianum, C. Stonei, and C. longifolium, and even these need not really be excluded, as they will do fairly well under the same treatment. As for the Dendrobiums which will succeed here, their name is legion, in fact all of them, with the exception of the few that come from the Torres Straits, such as D. bigibbum and D. Phalænopsis, which are better for a higher temperature throughout the year, although they may be made to do fairly well if the most suitable positions are selected. Then there are many of the warmer growing Odontoglossums, such as O. grande, O. Londesboroughianum, O. Harryanum, O. citrosmum, O. Insleayi, and O. Schlieperianum; also many of the Oncidiums, such as O. sphacelatum, O. Harrisonianum, O. hastatum, and others. Many Cœlogynes, Epidendrums, Zygopetalums, Lycastes, Brassias, Maxillarias, Miltonias, Trichopilias, &c., will succeed here.

I think I have now shown what an extraordinary number of different species and varieties can, with a little tact, patience, and perseverance, be grown well in one house and under practically the same treatment. Of course, when you have a large number like this in one house, little matters, more or less vexing and difficult to cope with, are continually cropping up. In many cases these difficulties are the direct result of our being ignorant of the exact conditions under which certain plants may be found in the most luxuriance in their native habitats, hence we are unable to select for them the most suitable positions within our houses. The same temperature and atmosphere are fairly suitable for all, and the positions suited to their

individual requirements may in most instances be quickly acquired by reading up the subject. Those preferring most light should be suspended; those requiring shade should be the furthest away from the glass; and those preferring a moist or dry position should be catered for accordingly. We will now pass on to the cool Orchids, which are also a large family, but not nearly so numerous as the first named. The treatment of these differs during summer only. They come from altitudes where the conditions of summer and winter vary but little, therefore during summer it is necessary for us to keep the house in which they grow as cold as possible, as the hottest part of our English summer is really too hot for them, and it is necessary therefore to shade heavily, to ventilate freely, and to damp down copiously, in order to prevent the atmosphere from becoming very dry. Do not make use of the top ventilators too freely during very dry or windy weather, or the moisture escapes too rapidly. A good way to ventilate is to set wide open the doors or to open the side ventilators, as you then get a good steady circulation of fresh air instead of a winnowing, drying draught. Syringing overhead may be performed during hot, dry weather, but generally I do not recommend it, as the plants do not appear to be benefited by the practice nearly so much as those belonging to the warmer section. This cool Orchid house may be a structure of almost any size or shape, so long as the above conditions are maintained, and the particular species that are best cultivated therein may now be mentioned.

In the first place we have nearly the whole of the large genus Odontoglossum, including, of course, that popular and beautiful species, O. crispum, and, indeed, almost the entire genus, with the exceptions of those previously mentioned as being partial to a slightly warmer temperature during the time they are forming new growth. Too much importance need not, however, be attached to this; for I have lately seen during my journeys some wonderfully fine examples of good culture of cool and intermediate Odontoglossums growing all together in one house. Again, a large number of Oncidiums do well here, as O. crispum, O. cucullatum, O. dasytyle, O. Forbesii, O. incurvum, O. Marshallianum, O. tigrinum, O. unguiculatum. O. varicosum, and others. Most of the Masdevallias will also grow best here; also the whole of the Anguloas, the Cochliodas, the Cymbidiums, the pretty little Sophronitis grandiflora, and several of the Epidendrums, including the brilliant and well-known E. vitellinum. The whole of the above prefer the conditions of the coolest house better than any other.

A third class of Orchids is generally known as "East Indian House Orchids," and this house in simply what is knwn in gardens as the "Stove." All having such a house, with facilities for maintaining a good degree of warmth at all times of the year, can hope to grow East Indian Orchids with success. The beautiful genus Phalænopsis must be mentioned here, with

a few of the warmer growing Dendrobiums, such as D. Bensonæ, D. Dalhousieanum, D. Dearei, D. Lowii, D. Johnsoniæ, D. superbum, D. macrophyllum, D. Parishii, D. bigibbum, D. superbiens, and D. Phalænopsis. There are also a few of the Oncidiums that are better for this greater heat, such as O. Papilio, O. Kramerianum, O. Lanceanum, O. ampliatum, and O. splendidum; also the genera Mormodes, Saccolabium, Angræcum, Chysis, Calanthe, and Catasetum. I do not say that the above will not grow in intermediate temperature, but they will certainly grow better in more warmth, though many of them will grow and do well treated simply as I have advised for intermediate Orchids, and lately I have seen some curious instances of this, so that the fact of my mentioning these as requiring more heat need not deter any one from giving them a trial in lesser warmth; for it is wonderful what can be done in houses that lay well to catch the sun's warmth in the clear air of country places, combined with due attention and a fair amount of knowledge of their requirements.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

A MEETING of this Society was held at the Coal Exchange, Manchester, on 14th April, 1898, when the members of the Committee present were:—Messrs. G. Shorland Ball (in the chair), Law-Schofield, Leemann, Backhouse, Bolton, Johnson, and Gent (Hon. Sec.).

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed a very fine Lycaste named L. × Mary Gratrix, a cross between L. Skinneri and plana. The petals are a rich dark maroon and the sepals a dull terra cotta, the contrast being very pleasing. A First-class Certificate was awarded. The same exhibitor also staged a very nice plant of Dendrobium × Sibyl.

Thomas Statter, Esq., Stand Hall (gr. Mr. Johnson), showed a very healthy, well-grown plant of Cypripedium × macrochilum giganteum, which obtained a First-class Certificate, and Dendrobium nobile Backhouseanum.

E. J. Sidebotham, Esq., Bowdon (gr. Mr. Shiner), showed Cattleya Lueddemanniana (speciosissima), a fine plant and good variety, but the flowers not so large as we have seen them on this plant.

Duncan Gilmore, Esq., Sheffield (gr. Mr. Day), showed Cattleya Schrœderæ albens. This was entered as alba, but there was the slightest tint of pink in the flower which caused the Committee to award an Award of Merit only. In other respects the flower was first-class.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed a light and distinct form of Cypripedium Mastersianum (Award of Merit), C. × Germinyanum violaceum, Cattleya Schrœderæ, C. Trianæ, a very fine

form of Odontoglossum × Ruckerianum with long segments, (Award of Merit), and O. crispum, a very pretty white form, full and of very good substance, (Award of Merit).

H. Shaw, Esq., Birch Vale (gr. Mr. Cliffe), showed a very pretty form of Cattleya Mendelii delicata, with petals and sepals of light pink and labellum white (Award of Merit).

D. Lord, Esq., Stackstead (gr. Mr. Swallow), showed a fine form of Cymbidium eburneum (Award of Merit).

M. G. Buckley, Esq., Saddleworth, showed a yellow form of Cypripedium insigne with rather small flower, accounted for, no doubt, by its being out of season.

Messrs. Hugh Low, and Co., Enfield, showed a very fine dark-lipped Cattleya Trianæ named gloriosa, C. Mendelii Mrs. Leemann, a very fine spotted Odontoglossum crispum called The Gem (Award of Merit), Cymbidium × Lowio-eburneum (Award of Merit), C. Lowianum concolor (Award of Merit), and Cypripedium × James Buckingham. The same exhibitors also staged a very effective group consisting of the above plants, a very fine form of Odontoglossum × Wilckeanum, O. luteopurpureum, Cattleya Mendelii, Oncidium Marshallianum, Cypripedium × Swinburnei magnificum, C. × selligerum majus, and many others. The Society's Silver Medal was awarded to this group.

At the meeting held on April 28th there was a very fine display of Orchids. Present: Messrs. Thompson (in the chair), Shorland Ball, Rappart, Cypher, Leemann, Law-Schofield, Sidebotham, Weathers, Greenwood, Johnson, Warburton, and Gent (hon. sec.)

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Hay), showed a very fine flower of Cypripedium Lawrenceanum Hyeanum (F-c.C.) C. × grande atratum, C. × Schrœderæ splendens, a good dark form of Cattleya Lawrenceana, Odontoglossum Rossii rubescens (A.M.), and the rare Dendrobium atroviolaceum (A.M.).

Thomas Statter, Esq., Whitefield (gr. Mr. Johnson), showed Cypripedium Lawrenceanum Hyeanum (F-c.C.) and C. caudatum Wallisii (A.M.)

E. J. Sidebotham, Esq., Bowdon (gr. Mr. Shiner), showed a well-flowered and excellent variety of Dendrobium × Venus (A.M.).

D. B. Rappart, Esq., Liscard (gr. Mr. Nicholson), showed Dendrobium nobile, Hutchinson's var. (A.M.) and Cattleya Mendelii Venus.

The Ven. Archdeacon Rawstone, Blackburn (gr. Mr. Hewitt), showed a very fine form of Cattleya Trianæ (A.M.).

E. Stanley Clarke, Esq., Wrexham (gr. Mr. Edwards), showed Dendrobium Schrœderæ, D. densiflorum, Odontoglossum cirrhosum, and O. × Ruckerianum.

Duncan Gilmore, Esq., Sheffield (gr. Mr. Day), showed Cattleya

Mendelii Dorothy Gilmore, a very fine form with exceptionally dark lip (A.M.), C. Mossiæ, and Cypripedium × Schrœderæ.

His Grace the Duke of Westminster, Eaton Hall, Cheshire (gr. Mr. Barnes), sent a flower spike of Odontoglossum Pescatorei Duchess of Westminster, a flower of perfect form, good size, and profusely spotted with dark purple. The Committee were of the unanimous opinion that had the plant been shown a First-class Certificate would have been awarded, but one of the rules of the Society is that flowers be not adjudicated upon unless the Committee are of opinion that it would have been risky to bring the plant.

Mr. James Cypher, Cheltenham, showed a very fine form of Odontoglossum crispum named Cypherii. The flower is full and of good size, with large dark maroon blotches on the sepals and numerous small specks or splashes of the same colour clustered about the centre of the petals. It is very distinct, and was deservedly awarded a First-class Certificate.

Messrs. J. Veitch and Sons, Chelsea, showed Cattleya × Philo, C. Schrœderæ amabilis, a large well-shaped flower with well-opened and dark yellow-throated labellum (A.M.), Epiphronitis × Veitchii (F-c.C.), Lælio-cattleya × Ascania superba (A.M.), L.-c. × Wellsiana, Epidendrum × elegantulum, Zygopetalum × Perrenoudi, with very dark lip, but not so good in size as we have seen it (A.M.), and Lælia × Latona, of a very effective rich terra cotta in colour (A.M.). This exhibitor also staged a very effective group, to which a vote of thanks was awarded.

Messrs. Linden, Brussels, showed a very fine lot of Odontoglossums, the best being O. × Wilckeanum Lindeni, an excellent form with rich dark spots (F-c.C.). The same exhibitors also showed O. × W. Princess des Canaries, very distinct, the groundwork of the flower being of a vivid yellow colour (A.M.), O. crispum Princess Clementine (A.M.), O. × Ruckeri lilacina, a very distinct and pretty pink form with dark spotting (A.M.), O. × versicolor, natural hybrid (A.M.), O. Pescatorei, and O. × Wilckeanum Schusterianum.

Mr. John Robson, Altrincham, showed Cattleya Mendelii and three plants of Odontoglossum crispum.

H. Greenwood, Esq., Haslingden, showed a small group, which received a vote of thanks.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

At the meeting held at the Drill Hall, James Street, Westminster, on April 12th there was a very good display of Orchids, and the following members of the Orchid Committee were present:—S. Courtauld, Esq., in the Chair,

and Messrs. J. O'Brien (Hon. Sec.), H. Ballantine, T. W. Bond, R. Brooman-White, H. J. Chapman, W. Cobb, De B. Crawshay, Major Mason, H. M. Pollett, F. J. Thorne, W. H. White, and W. H. Young.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a very choice group, not for competition, which was specially remarkable for a cut inflorescense of the handsome Eulophiella Peetersiana, the first produced in cultivation, to which a First-class Certificate was awarded. It was described at page 104 of our last issue. Other remarkable plants were Cypripedium × Olenus Burford variety, a specially large richly-coloured form (First-class Certificate), Masdevallia ventricularia longicaudata, a crimson-purple flower of novel shape, also shown for the first time (Botanical Certificate), Cymbidium Devonianum with six long racemes of flowers (Cultural Commendation), Polystachya Ottoniana forming a mass of white flowers, the remarkable Dendrobium Harveyanum, figured at p. 81, D. lituiflorum album, D. × micans, D. crepidatum superbum, Masdevallia leontoglossa, Odontoglossum × excellens Prince of Orange, O. apterum candidulum, Epidendrum × Endresio-Walisii, a fine specimen of Epiphronitis × Veitchii, &c.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Aldous), showed a magnificent Odontoglossum × Wilckeanum called Pitt's variety, with very large yellow flowers blotched with deep red-brown, to which a First-class Certificate was given.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whiffen), staged a fine group of well-grown plants, to which a Silver Banksian Medal was given. It contained a superb form of Cattleya Lueddemanniana, some good C. Trianæ and C. Mendelii, Oncidium olivaceum Lawrenceanum, some fine Odontoglossum crispum, and other handsome species.

J. Coleman, Esq., Gatton Park, Reigate (gr. Mr. King), also received a Silver Banksian Medal for a very effective group, containing some good Odontoglossum ramosissimum, Dendrobium Brymerianum, some good D. nobile, D. Victoria-Reginæ, a fine Cattleya Trianæ, Cymbidium × eburneo-Lowianum, a fine form of Sophronitis grandiflora, and a fine Coelogyne cristata alba in the centre.

Major Joicey, Sunningdale Park (gr. Mr. Thorne), staged a dozen superb plants of Diacrium bicornutum with an aggregate of about forty racemes, to which a Silver Banksian Medal was given. He also sent a fine Cattleya Schrœderæ, Dendrobium atroviolaceum, Brassia Lewisii, &c.

A. Warburton, Esq., Vine House, Haslingden (gr. Mr. Lofthouse), showed Odontoglossum Pescatorei album, a beautiful albino, the handsome O. crispum Lindeni (Award of Merit), and a very pretty hybrid Cypripedium, said to have been raised from C. bellatulum and C. Fairrieanum.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), sent a few magnificent Odontoglossums, including the handsomely spotted O. crispum Schrœderianum, the pretty O. c. Horsmanii, and O. × excellens dellense.

Malcolm C. Cooke, Esq., Kingston Hill (gr. Mr. Buckell), sent Odontoglossum triumphans aureum and Cypripedium Chamberlainianum.

Claude Hamilton, Esq., Dunmore Park, Larbert, N.B., sent a fine form of Dendrobium nobile.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), showed the handsome Lælio-cattleya × Sir William Ingram.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), staged a very interesting group, containing some good Cattleya Lawrenceana, two specimens of Cymbidium Devonianum with several racemes each, C. × eburneo-Lowianum and C. × Lowiano-eburneum, a fine Dendrobium nobile Cooksonianum, some good hybrid Cypripediums, Pleurothallis ornata, P. Scapha, P. Grobyi, and other interesting things.

J. S. Moss, Esq., Wintershill, Bishops Waltham (gr. Mr. Kench), sent a fine form of Odontoglossum × Ruckerianum.

W. C. Walker, Esq., Winchmore Hill (gr. Mr. Cragg), showed a good form of Odontoglossum × Ruckerianum.

Sir F. Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), sent a very fine inflorescense of Cœlogyne pandurata.

Messrs. James Veitch and Sons, Chelsea, staged a very fine group, to which a Silver Banksian Medal was given. It contained the new hybrid, Phalænopsis × Stuartiano-Mannii (P. Mannii ♀ × P. Stuartiana ♂), together with its two parents (Award of Merit), Epidendrum × elegantulum leucochilum, with pale yellow sepals and petals and a white lip (Award of Merit), Dendrobium × Aspasia langleyense, a clear yellow form with orange disc becoming reddish at the base (Award of Merit), D. × Wiganiæ, D. × Rolfeæ, D. × Cybele, D. × Euryclea, D. × splendidissimum nobilius, Lælia × Latona, L. × Euterpe, Epiphronitis × Veitchii, Lælio-cattleya × Ascania, L.-c. × Pallas, a fine unnamed hybrid derived from C. Trianæ ♀ and L. purpurata ♂, Cymbidium × eburneo-Lowianum and C. × Lowio-eburneum, Epidendrum × Phœbus (O'Brienianum × vitellinum), E. Wallisii, E. × Endresio-Wallisii, E. × elegantulum, Cattleya × intertexta, &c.

Messrs. Hugh Low and Co., Enfield, showed Phalænopsis × Schrœderæ (leucorrhoda × intermedia Portei), a very pretty hybrid, having blush-white flowers with some red and yellow markings at the base of the lip, to which an Award of Merit was given.

At the Meeting held on April 26th, the display of Orchids was particularly fine, and the following members of the Committee were

present:—W. Thompson, Esq., in the Chair, J. O'Brien (Hon. Sec.), E. Ashworth, H. Ballantine, T. W. Bond, H. J. Chapman, W. Cobb, De B. Crawshay, S. Courtauld, J. Douglas, T. B. Haywood, E. Hill, H. Little, H. M. Pollett, A. H. Smee, F. J. Thorne, W. H. White, H. Williams, and W. H. Young.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), showed Cattleya Mendelii Beatrice Ashworth, a nearly white form, and C. Schrœderæ Harefield Hall variety, with crimson lip, each of them receiving an Award of Merit.

His Grace, the Duke of Westminster, Eaton Hall, Chester (gr. Mr. Barnes), sent Odontoglossum Pescatorei Duke of Westminster, a fine form much blotched with purple, to which an Award of Merit was given.

H. Greenwood, Esq., Highfield, Haslingden, showed Odontoglossum × Humeanum Greenwood's variety, O. × H. maximum, a very fine form, which received an Award of Merit, and O. × aspersum violaceum.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), sent Cattleya × Sedeni (Lawrenceana × Percivaliana), most like the former, but with broader lip (Award of Merit).

J. Sparks, Esq., Heathside, Ewhurst, sent the Australian Cymbidium canaliculatum, with dull purple flowers (Award of Merit).

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), sent a fine specimen of Dendrobium albosanguineum, Odontoglossum polyxanthum, and a fine plant of Cypripedium × Gertrude Hollington, the latter receiving a Cultural Commendation.

J. Colman, Esq., Gatton Park (gr. Mr. King), also received a Cultural Commendation for a splendid plant of Cattleya Lawrenceana, with about twenty flowers.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), again showed the handsome Odontoglossum triumphans Lionel Crawshay in splendid condition, which was awarded a Cultural Commendation.

Sir Trevor Lawrence, Bart, Burford, Dorking (gr. Mr. White), showed Mormodes œnanthum, much like M. buccinator in form, but with claret-purple flowers. It bore four racemes, and was awarded a Botanical Certificate.

The Right Hon. J. Chamberlain, M.P., Highbury, Birmingham (gr. Mr. Smith), sent the handsome Masdevallia × Shuttryana Chamberlainii, and several plants of Lælio-cattleya × highburiensis (C. Lawrenceana × L. cinnabarina), a most striking thing, with salmon-rose sepals and petals and a rich claret-purple lip.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), sent Odontoglossum triumphans superbiens, a very large and richly-coloured form,

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whiffen) sent a very nice group, containing the chaste Cattleya intermedia alba, a fine C. Lawrenceana, Brassia brachiata, Dendrobium Jamesianum, and several fine varieties of Odontoglossum crispum.

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, sent a branch of the rare Neobenthamia gracilis (Rolfe) with a head of white flowers, prettily spotted on the lip.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Aldous), showed a good form of Odontoglossums triumphans.

Messrs. James Veitch & Sons, Chelsea, staged a very fine group, to which a Silver Flora Medal was given. It contained many fine plants of the richly-coloured Lælia × Latona, Masdevallia Veitchiana with twenty flowers, some fine forms of Cattleya Mendelii, C. × Philo, Lælio-cattleya × Ascania superba in excellent condition, a fine Epidendrum Wallisii, Brassia brachiata, &c. Three superb hybrids received special awards, namely, Lælio-cattleya × Thorntoni (C. Gaskelliana ♀ × L. Digbyana ♂), first raised by Mr. Thornton, and described at page 339 of our last volume (First-class Certificate), L.-c. × Wellsiana langleyensis (C. Trianæ ♀ × L. purpurata ♂), white, tinged with lilac and richly-coloured lip (F.-c. C.), and Cattleya Schrœderæ amabilis, peach-colour with deep orange throat (Award of Merit).

Messrs. Linden, L'Horticulture Internationale, Brussels, staged a really magnificent group, to which a Silver-gilt Flora Medal was deservedly awarded. It contained a rich series of Odontoglossum × Wilckeanum varieties, of which O. × W. Lindeni was the best heavily marked form, and O. × W. Princess des Canaries a bright yellow flower with long, slightly spotted segments, while the interval between them was filled by numerous distinct forms with both yellow and white ground. Other interesting Odontoglossums were O. × Queen of the Belgians, curiously intermediate between O. crispum and Hunnewellianum, O. × Ruckerianum deliciosum, a richly spotted form, O. Pescatorei Roi Leopold, well spotted with violet, O. triumphans, Miltonia vexillaria candidula, M. v. Lindeni, a large and handsome deep rose-coloured form, Cypripedium Argus Lindeni, C. × Lebaudyanum superbum, a fine C. Rothschildianum, a fine blush-white Cattleya Mendelii, called The Pearl, and other fine things.

Messrs. Hugh Low & Co., Enfield, stayed a very effective group, to which a Silver Banksian Medal was given. It contained some fine forms of Cattleya Mendelii, some fine O. crispum and O. × Andersonianum, a plant of the latter bearing three large branched spikes, some good O. cirrhosum, O. Edwardii, O. Pescatorei enfieldense with small purple spots on the petals, some good Oncidium spilopterum, &c.

Messrs. B. S. Williams & Son, Upper Holloway, also received a Silver Banksian Medal for a good group, including some very fine forms of Odontoglossum crispum, Cattleya Mendelii Morganiæ and other good forms of the species, Vanda suavis, some good varieties of Trichopilia coccinea, the handsome Trichcentrum tigrinum, and other good things.

ORCHID PORTRAITS.

Cœlogyne Massangeana.—*Rev. Hort. Belge*, April 15, p. 91, with plate.

Cypripedium × F. S. Roberts.—*Gard. Mag.*, April 16, p. 249, with fig. ("F. S. Ames," by error: *vide l.c.*, April 23, p. 256).

Dendrobium formosum giganteum.—*Gard. Mag.*, February 12, p. 377, with fig.

Dendrobium nobile Ashworthianum.—*Gard. Chron.*, April 2, p. 203, fig. 77.

Eulophiella Peetersiana.—*Gard. Chron.*, April 2, pp. 200, 201, fig. 76, and suppl. plate; *Journ. Hort.*, April 21, p. 343, fig. 66.

Odontoglossum crispum Baroness Schroder.—*Garden*, April 9, p. 297, with fig.

Odontoglossum crispum Princess Christian.—*Journ. Hort.*, March 31, p. 277, fig. 57.—A fine form of O. × Wilckeanum with white ground.

Odontoglossum × Wilckeanum Pittiæ.—*Garden*, April 16, p. 325, with fig.

Phalænopsis × John Seden.—*Garden*, April 9, p. 297, with fig.; *Journ. Hort.*, April 14, p. 321, fig. 63.

Trichopilia brevis.—*Gard. Mag.*, February 12, p. 102, with fig.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

A. W. H., Stockton. Phalænopsis Aphrodite and P. Schilleriana are usually grown together—indeed they occur together in a wild state—but the former is less vigorous. It is difficult to account for the roots going off, but we should try one or two plants with less materials about the roots, trusting to damping down for the necessary moisture. P. amabilis (grandiflora) has rather longer and paler leaves.

J. S. S., Twickenham. A good typical Odontoglossum × Andersonianum, a natural hybrid between O. cripum and gloriosum. See vol. i, pp. 170-174. Oncidium sarcodes with spike 5 feet high, and 132 flowers is certainly very fine. The flowers sent are very good.

G. S. M. Is it not possible that too much ammonia has been used? We do not know if it ever disfigures the foliage of soft-leaved Orchids.

F. G. R. We have heard of Dendrobium seedlings germinating from seeds sent home on imported plants, but they are not likely to be hybrids.

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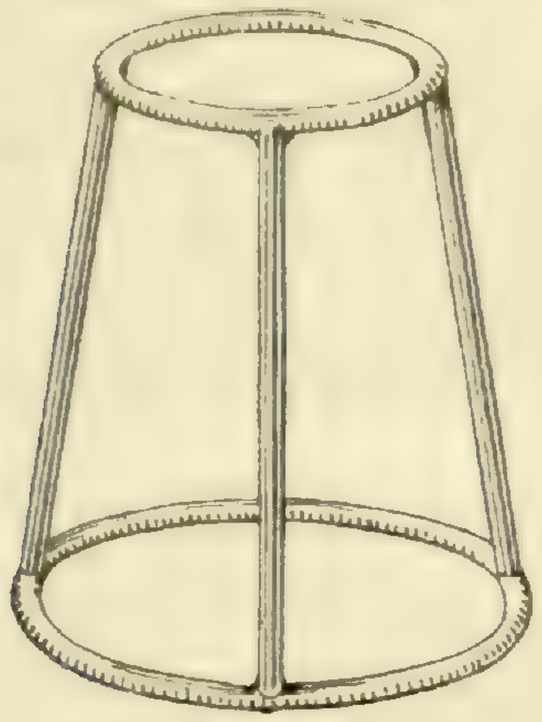

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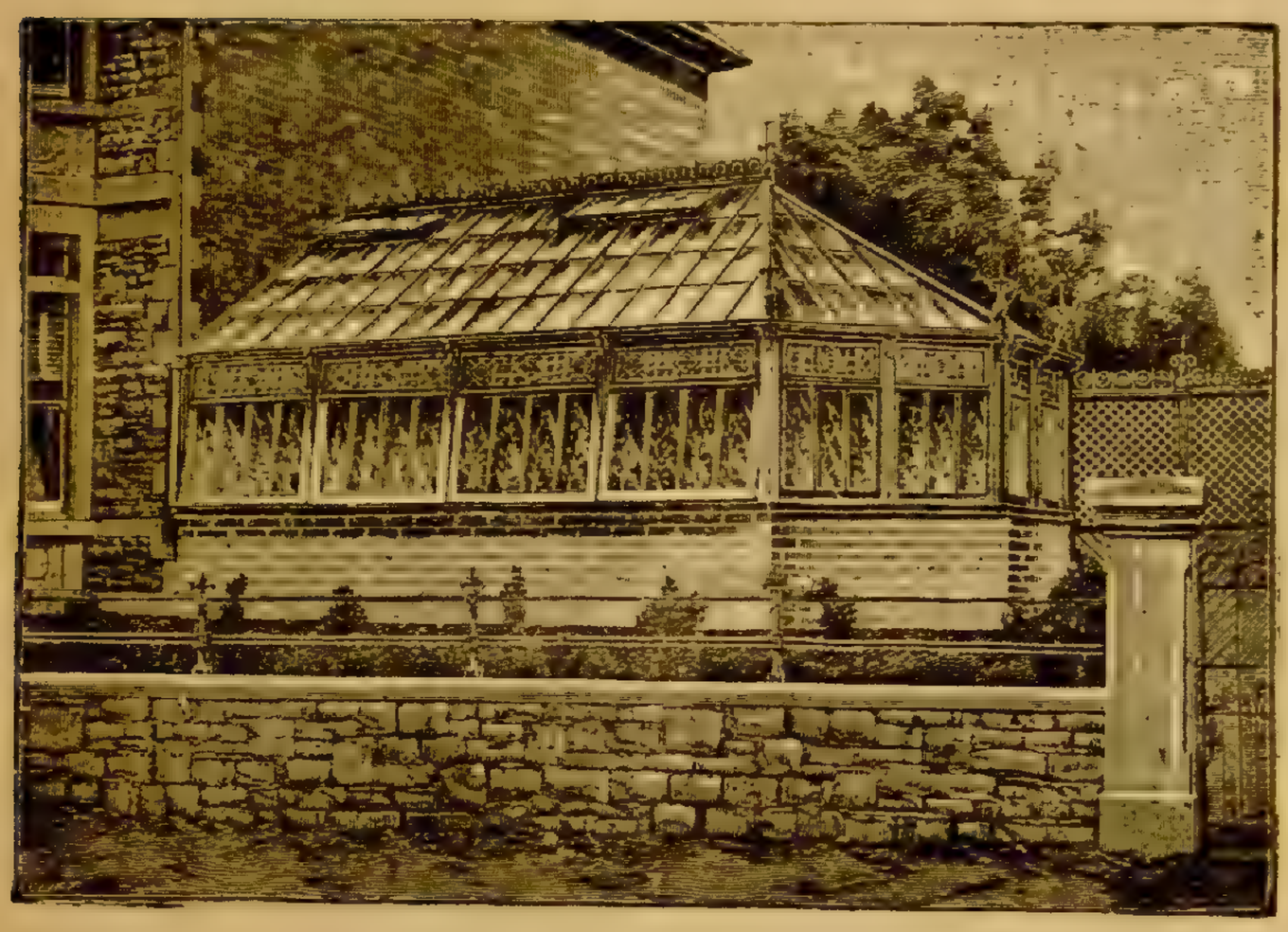

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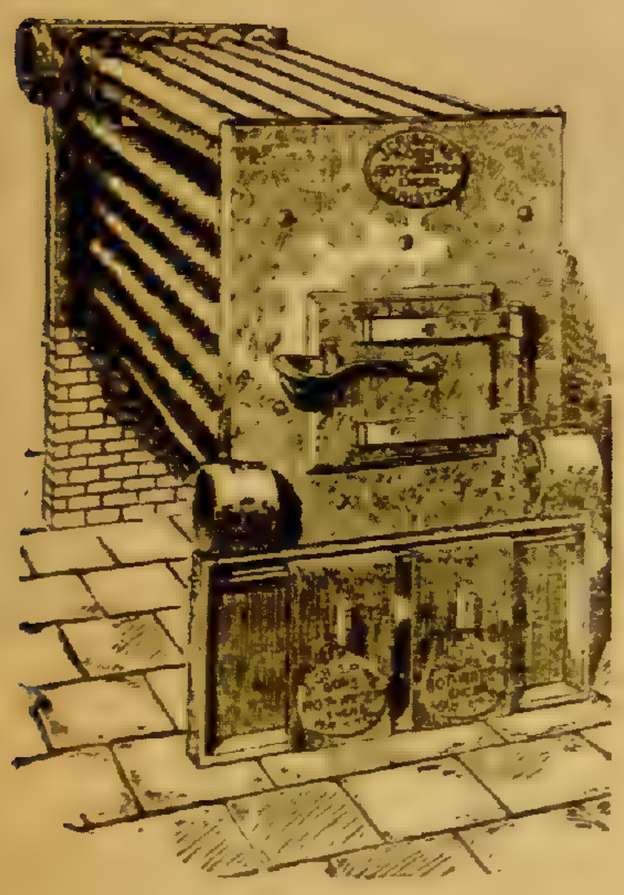

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THE ORCHID REVIEW.

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NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James St., Westminster, during June, on the 14th and 28th respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

On the former occasion a lecture on "Hybrid Orchids" will be given at 3 p.m., by Mr. James O'Brien, V.M.S.

Two meetings of the Manchester Orchid Society will also be held at the Coal Exchange, Manchester, on the 16th and 30th. The Orchid Committee meets at 12 o'clock, noon, and the exhibits are open to inspection from 1 until 4 o'clock. We regret an error that crept into our last month's announcement. A single meeting only was held, and that on the 19th of the month.

The Hon. Secretary of this Society is now Mr. Thos. Mills, 37, Cross Street, Manchester, in succession to Mr. W. A. Gent.

We regret to learn that in consequence of the death of Hamar Bass, Esq., and the consequent changes at Byrkley, Mr. James Hamilton, who has presided over the establishment with such success, is under the necessity of seeking another engagement. Mr. Hamilton's abilities in the culture of Orchids and every other branch of gardening are so well known that his services ought not to remain long unsought for.

A very fine twin-flowered scape of Cypripedium or Paphiopedium niveum is sent from the collection of H. Gurney Aggs, Esq., Pippbrook, Dorking. The flowers are large, being over 2½ inches across and the petals over 1 inch broad, and they come equally large each year, and often two on

a spike. This form is sometimes called variety giganteum. Its difference is not due to good culture, for a photograph of the ordinary form is enclosed, a strong, healthy plant, bearing eight flowers, two being on twin-flowered spikes, but all normal in size.

Several beautiful Dendrobiums are sent from the collection of R. Brooman White, Esq., of Arddarroch, N. B. It includes D. nobile nobilius, and a still finer, richly-coloured form, which has appeared as an imported plant, and nearly rivals D. n. Hardyanum in size, the petals being over thirteen lines broad, and the lip still larger. There is also a very fine D. Wardianum with three-flowered raceme; a seedling from D. nobile crossed with D. signatum, which, of course, is D. × Wiganiæ; D. × Aspasia and D. × Dominyanum; a very promising, rosy seedling from D. × splendidissimum grandiflorum and D. nobile nobilius, and two or three other interesting forms.

Two good rose-coloured forms of Odontoglossum crispum are also enclosed, one of them being very large, and bearing numerous small purple spots and dots on the petals; also O. citrosmum, with its beautiful variety roseum, and a nearly pure white form.

An exceptionally fine form of the beautiful Oncidium Phalænopsis is sent from the collection of Major Gen. C. B. Lucie-Smith, The Acacias, Worthing. The flowers measure 2 inches across the broadest diameter, and the lip is $1\frac{1}{3}$ inches wide. The spray sent bears four flowers, beautifully marked with purple on the sepals, petals, and base of the lip, on a white ground.

A remarkable flower of Cattleya intermedia composed only of two sepals, two lips, and a straight column without any anther, is sent by Mrs. Barton, of High Bickington, N. Devon. A similar flower from the collection of E. Ashworth, Esq., is mentioned at page 189 of our last volume.

A very pretty form of Cattleya intermedia with the sepals, petals and side lobes of the lip rose-pink is sent from the collection of Dr. Macbean, of Lancaster. It is near to the original form of the species, figured at t. 2851 of the *Botanical Magazine*, but paler in colour. Two good forms of Lælia purpurata are also enclosed.

A large and handsomely marked form of Odontoglossum Hallii comes from the collection of H. Brittan Evans, Esq., of Clifton, together with a pretty form of Bifrenaria Harrisoniæ with white sepals and petals, and Bifrenaria Hadwenii, which for some reason has only now flowered after five years growing.

We regret to learn that the valuable Orchids exhibited by M. Jules Hye at the Temple Show have been lost. It appears that about 9 p.m. on Friday evening, when exhibitors were packing up and removing their collections, the plants were seen in the tent by the Society's Superintendent and by M. Hye's assistant. The latter then left the tent, and on his return about an hour later the plants were missing. Telegrams have been sent to other exhibitors under the impression that they might have been packed up by accident with some other collection, but without result, and a reward has been offered for their recovery.

AN AMATEUR'S EXPERIENCES.

By Eustace F. Clark, B.A., Teignmouth.

(*Concluded from page* 133).

On January 10th, 1897, I made my first experiments in hybridization, crossing Cypripedium × Sallieri and C. × Leeanum each with pollen of C. venustum; C. venustum with pollen of C. × Sallieri; and C. insigne with pollen of C. × Leeanum. The last proved a failure, but the pod of C. × Sallieri ripened, and the seed was sown about the same time as some seed of C. × Harrisianum × C. callosum (the cross of which was effected in February, 1897), which ripened about the same time (October 24th, 1897), but I have as yet no seedlings from either cross. The pod of C. venustum seems about ripe, and that of C. × Leeanum likely soon to be so, but a peculiar growth seems to be taking place at the base of the pod, similar to what might be produced from the base of the plant. Possibly it means to flower again from the same spike. A little Jadoo fibre in the compost may have had some effect in creating growth from an unusual place. A pod of Cypripedium callosum crossed with C. Boxallii on February 24th, 1897, ripened towards the end of January, 1898.

Two pods of Odontoglossum Rossii on the same stalk crossed with other Odontoglossums (I think O. maculatum and O. Pescatorei) have appeared to ripen, bursting, one in December and the other in January last. The first and largest pod appeared to contain only chaff, but the latter seems more hopeful. Pods of O. Pescatorei from a cross made at the same time are still unripened.

In April, 1897, after a winter without incident, I added several more Cypripedium seedlings, including two specially promising ones, C. Chamberlainianum × Spicerianum magnificum, and C. Spicerianum magnificum × C. × Juno. Both have so far done well. I also purchased my first Lælio-cattleya seedling, Cattleya Mendelii × Lælia cinnabarina. This was

apparently making its first bulb, but was exceedingly healthy and strong. It did remarkably well in 1897 (the small pot being plunged in moss), and completed a good round bulb and a long leaf, about 3 inches long. It is now engaged, in 1898, in making a splendid growth, that gives promise of a much speedier development to the flowering stage than is often given. Encouraged by this success, I recently acquired several more nice Cattleya or Lælio-cattleya seedlings, all growing remarkably well. They include one of Cattleya gigas × C. aurea, C. gigas × L. præstans, Lælia × Schilleriana × L. cinnabarina, C. Percivaliana × L. anceps, and others. These seedlings are at present on a shelf near the glass.

Seedlings seem occasionally to come in the material round imported plants. I found two such with Cypripedium insigne montanum, bought as an imported plant in a dry state, and though quite small, with the longest leaf measuring less than 1 inch, one has survived, and two more seedlings have sprung up from the base of the same plant. I see also a seedling each at the base of plants of C. villosum and C. Spicerianum. There are quite a dozen seedlings (some mere globules, others with little bulbs and leaves) at the base of an Odontoglossum bictoniense recently purchased from the Woodall collection offered by Messrs. Charlesworth. It is possible, of course, that these may be the result of some sowing on the pot, but I think this improbable. They look as if they would become ultimately Odontoglossum bictoniense.

During the summer of 1897 I took the opportunity of again putting cool Orchids in a frame outdoors, the same tray, half filled with water, being used as a basis for the inverted pots. The frame was placed near the Cool house on the north side, and was sheltered by it, but I do not think it was quite a light enough position at all times, as it only got the sun towards the end of the day. I scarcely troubled to shade it at all under these circumstances, and it was almost constantly open on one side or the other. The water under the pots seems largely to counteract the effects of any dryness in the air or too strong sun, and the plants seem to become quite hardened. Two plants that showed the most marked improvement when put out were Miltonia vexillaria and Odontoglossum Harryanum, both flowering beautifully soon after. The last-named seems most powerfully scented, but I have never seen this commented on. My plant was once a poor undeveloped thing, thrown in as an extra, but has improved vastly, and this summer outing is evidently the receipt for this.

I put out also a Lycaste aromatica, which showed a great tendency to make large brown blotches on the leaves, and to be going wrong after flowering. After I had cut the diseased parts of the leaf away and had put the plant in the frame, this bad tendency was entirely checked. Apparently all the plant wanted was fresh air. My Masdevallias were, some of them,

badly attacked by thrips. On being treated for this and put in the frame they certainly showed some improvement. It is evidently the place also for Disa grandiflora.

As to intermediate plants, I did not care to try many of them even in hot weather in the frame, especially as it got so little sun, but I frequently availed myself of a small shower of rain to put various Cattleyas, Lælias, and even Cypripediums, not excepting C. niveum and C. bellatulum, out in it, but I usually took care to wipe the leaves of such delicate plants when I brought them in after heavy rain. This, as a rule, seemed to do good, and I feel disposed sometime to start a frame facing south or east for the summer accommodation of plants requiring more sun than ordinary cool Orchids and yet plenty of fresh air. Cattleya Mossiæ unquestionably benefited by this occasional putting out, also C. Trianæ, but C. labiata seems more delicate.

Alterations in my heating arrangements made it advisable for me, towards the end of the autumn, to put all my intermediate Orchids temporarily into my conservatory. Fortunately the weather was kind, and the change, far from doing harm, did, I believe, much good. The Cattleyas and Lælias were arranged near the glass side facing south, and I believe this tended to thoroughly ripen their bulbs, those made by Cattleya Trianæ, a small C. Mossiæ, and C. Mendelii being rather round and stout, and like native-made bulbs rather than the spindly ones often made here.

This has been an exceptionally mild winter, with scarcely any frost. In fact, on February 19th I have Salvia Heerii blooming profusely in the open garden, also a Chinese primula that has been blooming on my rockery all the winter, and Plumbago capensis and other tender things are quite uninjured. It will be interesting to see the effect on the growth of Orchids. I have Dendrobium nobile growths already about half as long as the old bulbs. It will be interesting also to continue experiments in treating Orchids more in accordance with natural conditions during the coming summer.

I may add that I have during the past autumn made further experiments in hybridization. I have pods that appear to be well formed and likely to ripen properly in their season of—

Cattleya labiata × Epidendrum osmanthum (Capartianum.)

Cattleya Dormaniana × C. labiata and × Lælia Dayana.

Epidendrum ciliare × Lælia anceps and × Sophronitis grandiflora.

Lælia anceps × L. albida and × L. autumnalis.

Cattleya Bowringiana × Cattleya Dormaniana.

The attempt to cross a flower of Lælia anceps with Epidendrum ciliare, and E. osmanthum with C. Dormaniana and L. Dayana failed.

We have followed this article with the greatest interest, and from

allusions made to it in the letters of some of our esteemed correspondents we know that others have derived both pleasure and instruction from its perusal. It has described the formation of an amateur's collection, step by step, in a way that has reminded some of those who are no longer beginners in Orchid culture of their early days; it has afforded encouragement to others who may have felt a little disappointment in comparing the results of their efforts with those obtained by some of our veteran growers, who have unlimited resources at their command; and it has shown what a delightful hobby is within the reach of those in search of some relaxation from the cares of business, and who are able to secure the necessary amount of attention for their plants. We shall be only too pleased if Mr. Clark is able on some future occasion to send us other interesting notes.—ED.]

BOTANICAL ORCHIDS AT KEW.

The Kew collection is always very interesting, for besides the familiar showy species, which are very well represented, it possesses a large number of botanical species, and it is surprising what a constant succession there is among this class of Orchids, many of which are very attractive little plants, which would lend additional interest to any collection.

Among the Warm house species we note that Bulbophyllum is now represented by B. gibbosum, a native of Java, and B. recurvum, a small West African species, and Cirrhopetulum by the remarkable C. robustum, a New Guinea species, which possesses a very strong though not very agreeable odour. Oberonia myosurus, a native of Burma, is remarkable for its terete leaves. Gongora bufonia is another remarkable plant, which is very seldom seen in collections. Aspasia principissa is a striking Central American species that is now seldom met with.

In the Cool house we find the pretty and free-blooming Saccolabium gemmatum, an Indian species with terete leaves and white and purple flowers. Maxillarias are represented by M. arachnites, a Columbian species with yellowish flowers, M. iridifolia, whose foliage is described by its name, M. præstans from Guatemala, and the very charming M. sanguinea. There is also the curious and very free-flowering Hexadesmia fusiformis. Pleurothallis is represented by several free-flowering species; P. rotundifolia and unistrata are two pretty little plants, and P. semipellucida is very graceful, bearing not less than twelve fine racemes. P. mutabunda and platyrachis are both remarkable, and will be in bloom in a week or so.

Epidendrum is represented by several species, amongst which E. armeniacum, a Brazilian plant with dense spikes of small brownish flowers, especially attracted our attention. Pholidota is also represented by P. articulata and Griffithii, both having small white flowers. They are natives

of India, and are easy to cultivate. Polystachya pubescens and P. bracteosa are two African species worthy of mention. The former has deep yellow flowers, remaining in excellent condition for over two months. and the latter has curious depressed pseudobulbs and branched racemes of greenish flowers. Disperus secunda and capensis, belonging to the South African Flora, are both very remarkable in structure.

Several other interesting species are in flower or bud, and will doubtless afford mattter for future notes.

ODONTO.

LÆLIO-CATTLEYA × ELEGANS & L.-C. × SCHILLERIANA.

THESE two very variable but quite distinct natural hybrids are still much confused in cultivation, though in some collections their differences are now correctly understood. Several incorrectly named plants have recently come under my notice, and the following note is penned with the hope of reducing the amount of confusion between them.

There are three well known and handsome species of Orchids which grow together in the Santa Catherina district, in South Brazil, namely Lælia purpurata, Cattleya intermedia and C. Leopoldi, which evidently intercross very readily, for all the three possible combinations between them are known, as follows:—

1. Lælia purpurata × Cattleya intermedia (or the reverse cross) yields Lælio-cattleya × Schilleriana.

2. Lælia purpurata × Cattleya Leopoldi (or the reverse cross) yields Lælio-cattleya × elegans.

3. Cattleya intermedia × C. Leopoldi (or the reverse cross) yields Cattleya × intricata.

Lælio-cattleya × Schilleriana is often known in gardens as L.-c. × elegans alba or white elegans, but, as just pointed out, it is a quite distinct hybrid and should receive its proper name. The sepals and petals are generally white or blush because both the parent species have this character.

Lælia-cattleya × elegans is properly limited to what is sometimes called the Turneri section to distinguish it from those mentioned in the preceding group. The darker colour and generally broader petals are due to similar characters in the C. Leopoldi parent.

Both the preceding hybrids are very variable, and have received numerous names, which points have already been treated in detail in this work (vol. i, pp. 235-238).

Cattleya × intricata is less common than either of the preceding hybrids, and is nearly intermediate between C. intermedia and C. Leopoldi, generally approaching the former in having rather narrow petals, and the latter in being spotted, a character which extends also to the sepals.

These details have been worked out by careful comparison of the plants in question, but it would be very interesting if someone would demonstrate their origin by direct experiment.

Since writing the preceding, information has come to hand of L.-c. × Schilleriana having been raised artificially. Six years ago Messrs. Charlesworth and Co., Heaton, Bradford, crossed Lælia purpurata with the pollen of Cattleya intermedia, and now a plant has flowered, and proves precisely identical with the wild plant. It was exhibited at the Temple Show, and afterwards went to the one at Manchester. The circumstance is very interesting, and places the origin of this beautiful natural hybrid beyond the reach of further dispute.

R. A. R.

THE HYBRIDIST.

Paphiopedium × Rowena.

We have now another very interesting and beautiful hybrid from Paphiopedium Chamberlainianum to record, in this case P. bellatulum being the pollen parent. It has just bloomed in the collection of R. H. Measures, Esq., The Woodlands, Streatham, and Mr. Measures, in a note accompanying the flower, remarks that it is his first Chamberlainianum cross. While retaining much of the character of the latter, the shape of the flower is much more like the pollen parent, having the general shape, the broad, flat petals, and the short lip, all, however, being modified in various details. The inflorescence is very short, but there are two additional bracts, much resembling those of P. Chamberlainianum, which show that additional flowers might have been expected had their development not been arrested by being cut. The dorsal sepal is broadly ovate-orbicular, over 1¼ inches long by 1½ inches broad, the base deep purple-brown, with about 13 similar bands extending into the cream-yellow upper part; the petals 2 inches long by 1 inch broad, closely lined with rows of purple-brown spots on a ground colour which is cream-yellow towards the apex, but suffused with light purple elsewhere; the lip densely marbled and spotted with purple, and the staminode deep blackish purple, and ovate-orbicular in shape. It is a very striking thing, and we shall hope to see it again when its character is fully developed.

Paphiopedium × Chamber-Leeanum.

In the establishment of M. Ed. Pynaert van Geert, of Ghent, we recently saw a distinct and pretty hybrid, raised from P. Chamberlainianum and P. × Leeanum, to which a name had been given indicating its origin and parentage. It was fairly intermediate in character, though rather inclining towards P. Chamberlainianum in the flower. The ground colour is

yellowish-green marked with purple-brown, and a white apex to the dorsal sepal. It is most comparable with P. × Deedmanianum (P. Spicerianum ♀ × Chamberlainianum ♂), but in the present one the influence of P. insigne, coming through P. × Leeanum, is also apparent. It appears to have a very good constitution, and will probably develop into a handsome thing.

Epidendrum × Phœbus.

A raceme of a brilliantly-coloured Epidendrum has been sent from the establishment of Messrs. James Veitch & Sons, which owes its descent to the intercrossing of E. vitellinum ♀ and E. × O'Brienianum ♂. Mr. Seden states that in habit it much resembles the latter, except that the growths are much shorter. The flowers are also much like this parent in shape, though a little larger, but the colour is brilliant cinnabar-orange, much approaching that of the seed parent. A peculiarity which it possesses is that in every case the petals are united to the sides of the column, which was probably the case in E. × radico-vitellinum, where they were noted as absent. In any case, it is a curious coincidence that both the hybrids from E. vitellinum should present this character.

Lælio-cattleya × intermedio-flava.

This is a pretty little hybrid, raised by M. Ch. Maron, of Brunoy, Paris, from Cattleya intermedia ♀ and Lælia flava ♂, of which a flower has now reached us from Messrs. Charlesworth & Co., Heaton, Bradford. It is fairly intermediate in habit between the two parents, and bears racemes of several light yellow flowers, about twice as large as those of the Lælia parent, the lip being three-lobed, with the front lobe dull rose-purple, and a broad line of the latter colour extending down the centre of the disc. One or two of the seedlings had larger flowers than the rest, of a very deep shade of canary-yellow, and have been distinguished under the varietal name of Golden Queen. One of these was exhibited by Messrs. Charlesworth at the Temple Show, and received an Award of Merit.

Epilælia × Charlesworthii.

This is another most interesting hybrid, of which a good plant was exhibited by Messrs. Charlesworth & Co., at the Temple Show. It was derived from Lælia cinnabarina ♀ and Epidendrum radicans ♂, and resembles a dwarfed edition of the latter in general habit, and the root-bearing character of the stems. The flowers measure 1¾ inches across their broadest diameter, are borne in short racemes, and have all the brilliancy of colour of the pollen parent as well as its shape, though all the segments, including the lip, are much more elongated. The plant is also marked by

its free-growth, and is not only interesting on its own account, but also as a probable factor in the production of some still finer secondary hybrids. It is curious that both this and the now well-known Epiphronitis × Veitchii should have taken entirely the character of the pollen parent so far as the shape of the flower and the adnate column are concerned.

ODONTOGLOSSUM × CRISPO-HARRYANUM.

A flower of this most interesting and beautiful hybrid, which received a First-class Certificate at the Temple Show, has been sent by M. Ch. Vuylsteke, of Loochristi, Ghent, who raised it from O. crispum and O. Harryanum ♂. The sepals and petals are narrower and more acuminate than in the latter, and the dark markings are reduced by about one-half; in this respect recalling some forms of O. luteopurpureum. The lip closely resembles that of O. Harryanum, chiefly differing in having the dark basal part a little more broken up by yellow, and in the filaments of the crest being slightly reduced in size. M. Vuylsteke must be congratulated on his success with this genus, for his beautiful O. × loochristiense was described at page 41, and now we have a second great acquisition to record.

CALENDAR OF OPERATIONS FOR JUNE.

By H. A. BURBERRY, King's Heath, Birmingham.

THE temperatures for the East Indian and Intermediate house Orchids for this month should be maintained as advised for last, allowing, of course, for a rise of a few degrees of extra warmth corresponding to the increased warmth outside. Now is the time of the year when the plants *will* grow if only given rational treatment. If the little matters of ventilation, shading, watering, damping, and keeping free from insect pests are attended to with a reasonable amount of common sense and regularity, then headway and good healthy growth will surely follow in its train. But if the plants are denied due attention in these respects during the following few months, then, as can only be expected, the best of the season will slip past without leaving its stamp of health and vigour behind.

A gardener, who is justly proud of his small but wonderfully well-cultivated collection of Orchids, gave me the other day what he considered were the four chief factors in the successful culture of Orchids (warm and intermediate Orchids). They are these: Sun, air, warmth, and moisture. His Orchids are never shaded from the sun's rays. Air is supplied very freely on all favourable opportunities. By "warmth" he referred principally to sun heat, not fire heat, and by "moisture" he means that the plants should be kept wet not only at the roots, but occasionally

syringed overhead daily during the growing season. No doubt whatever that his method of treatment suited his own plants, for they were with but few exceptions in exceptionally robust and rude health. His ideas are right; they cannot be questioned. But I may point out one fact of some little importance when one talks about treating his Orchids without exception to species, or genus, to the full glaring rays of a powerful summer's sun through the glass. It is this; on looking round I noticed that there were a good many tall trees in the immediate vicinity, and his Orchid houses stood well beneath their shadows, therefore it was not surprising that no shading was employed. None was necessary evidently, and if used under the circumstances would certainly do more harm than good. We all know, when a house is partially shaded by a neighbouring tree, how cool and delightfully refreshing the temperature therein seems on an oppressively hot summer's day. And that, if one half of the structure is so shaded, the other half may be fully exposed to the sun, but no burning or scorching of the foliage will accrue because the one condition counterbalances the other to a nicety; and this, together with the air and moisture distributed, ensures healthy and invigorating conditions as the natural result. However, I must still continue to advise the shading of Orchids by some material or other when in exposed positions; but I advise also that such shading should be removed as early in the afternoon as the circumstances may admit, so that the plants may enjoy the syringe, the sun, and the air at one and the same time, for longer or shorter periods during the afternoon or evening, before the top air is taken off for the night. From this system of treatment weakly plants will derive much benefit, whilst strong specimens will become stronger still. My friend also keeps his plants in a continually wet condition at the roots. The majority of his plants seem to revel in it, but it must not be concluded therefrom that it is the correct thing to do. In such cases it often becomes a matter of the survival of the fittest. Yet when one sees a sight like this, where almost every plant, whether it be a Dendrobe, a Vanda, a Cypripedium, an Odontoglossum, an Oncidium, or any other species, growing vigorously and seemingly to be perfectly happy, treated as if it were half aquatic, it sets him thinking, and he begins to wonder whether Orchids are not sometimes too carefully treated in the way of water, and consequently somewhat starved—during their time of growth especially.

A casual visitor must not, however, jump at conclusions, and be induced to alter his own methods of culture too completely in one item, without going into the matter as fully as he possibly can, and inquiring into the why and wherefore. For instance, I have pointed out that my friend's houses are never shaded, although doubtless they do receive a considerable amount of bright sunshine. He then gives air abundantly to prevent

burning or scorching, under which condition it becomes absolutely essential to give copious waterings. The one condition necessitates the other, and when all are duly and properly attended to they harmonize, and work perfectly and satisfactorily.

The Cool Orchid house must, of course, be kept as cool as possible ; our climate chops and changes about in such a remarkable way, however, that it becomes difficult for one to lay down hard and fast rules for guidance. See what weather we had in May! Why, it was as cold then as it was at Christmas. When one says as "cool as possible," he supposes, of course, that the weather will resemble in some degree that of summer. Doubtless there were many days and nights last month when a little fire heat, even in the Cool house, was beneficial, because then more air could be supplied, for Cool Orchids abhor a stuffy admosphere. See that the night air is admitted freely to them during the summer.

Auguloas have now just passed out of bloom, and are making robust growth. I advised the repotting of these where necessary when the new growths were just pushing up about two months ago. It is too late to disturb them now. The growth is too far advanced. Let them be placed in a light position in the Cool house, and given a liberal supply of water at the roots until growth is finished.

Odontoglossum crispum and allied varieties should always be attended to in accordance to their stage of growth. Keep them well under review, and repot any that have got in a bad state at the roots just as the new growth commences to break away from the base. Give them a light position on the stage, and keep them pretty well supplied with water during the summer months. Nothing is much easier to grow and keep in good health than Odontoglossums when a start is made with healthy plants, sufficient air is given, and they are kept perfectly free from insect pests, such as thrips and aphis. When O. crispum becomes weekly in health it is not always an easy task to restore it to vigorous growth again. It may take years of anxious and careful treatment. Frequently debilitated plants will start new breaks in abundance, starting to grow from almost every bulb. This must be taken for nothing but an undesirable sign, and unless all growths, with the exception of the leading one, are removed on their appearance, the ruin of the plant is not far ahead. Death of the old pseudobulbs, and the formation of a number of tiny useless ones, is the result.

Cochlioda Noetzliana is a pretty thing, as also are C. rosea, C. sanguinea, and C. vulcanica. They all require identical treatment to the cool Odontoglostums, excepting, perhaps, that as they are rather smaller growing plants, they will have a better chance of receiving their full share of light and air, if grown in baskets or pans and suspended from the roof.

I also like to repot these species in mostly all peat, pressed in firmly, mixing therewith a liberal quantity of sand. Thus potted, the roots being of a more fine and fibrous nature, last longer in a good healthy and sweet condition, which is very important with fine, or small rooting species, for they are invariably averse to root disturbances.

A similar material I prefer for the Lycastes, the roots of which are of a wiry and half-terrestrial nature, requiring only to be left alone. For these I use but very little sphagnum moss indeed, preferring good lumpy peat, not necessarily of the best fibrous nature, and rather less drainage than is generally used for most other Orchids. In fact for such species as L. Skinneri, L. gigantea, and L. Deppei, a little fibrous loam may be mixed in with advantage. And then, if watered with judicious care, root disturbance for purposes of repotting is required only at long intervals.

I have previously recommended February as the best month of the year for the necessary repotting of the genus Masdevallia. Those plants that were then done will now be nicely re-established with new roots, and will make great progress during the summer. Any that require repotting, which were not done then may be done now, but delayed no longer. They soon recover from the effects of root disturbance, and are better if not allowed to go too long before being potted in new compost; from two to three years should be the limit. Two parts of good lumpy peat to one of sphagnum moss is a good compost. They are not so particular as to the extra-fibrous quality of the peat as are some Orchids, such, for instance, as Cattleyas, Lælias, and Dendrobiums. Give Masdevallias a position on the stage in the Cool house, and keep them pretty well supplied with water at the root from now henceforth, but avoid excessive watering, as this often results in the foliage turning black. The small dwarf growing kinds are best grown in pans and suspended.

The great Orchid show of the season will now soon be over. The charm of Orchid growing is that there is always something in flower, no matter the time of the year, or whether the collection be small or large; there is always something of interest to see. But at no time can we excel the gorgeous and beautiful show the months of May and June present us with. We prize and admire that show; and arrange the plants in a telling and artistic manner, and such is our desire to maintain it as large, and for as lengthy a period as possible, that we sometimes allow small weakly plants to bloom which should not do so, and to allow the flowers to remain on others after the plants are actually showing evident signs of distress. I need not say that the above practices are the reverse of good. The grower must look forward for a show another year, and must therefore not overburden his plants.

After the flowers are cut no time must be lost in again giving them their

growing quarters. In the case of the Cattleyas, top dressed, or repotted, as the case may demand, and again placed along side of those species previously done, and which are now growing and rooting freely, and requiring nothing more than to be left alone, revelling in warmth, light, and moisture, until growth is completed. Regarding the Lælias, of which L. purpurata and L. tenebrosa are conspicuous, the same words may be used. Likewise the Dendrobiums, a few of which flower at this season, giving a great effect by lending lightness and grace, and forming a contrast as it were to the more heavy flowers of Cattleyas and Lælias. I refer to such species as D. crystallinum, D. Bensonæ, D. transparens, D. Boxallii, D. thrysiflorum, and D. suavissimum.

Miltonia vexillaria will now be passing out of flower, and must also have immediate attention in cultural matters, delay being dangerous to this species. I think I previously mentioned February as a very good time for repotting. Another time is immediately after flowering, which is now. Like most other Miltonias, they are continually growing, therefore a rest in the strict sense of the word is neither required nor desirable. They must at all times, however, be watered rather moderately, a soddened state at the root being particularly distasteful to the whole genus, frequently causing the foliage to decay at the apex and black spots to appear. Miltonias, I think all excepting M. Roezlii, do fairly well in a Cool Orchid house, but are better in the long run if occupying intermediate temperature, where the last-named also succeeds. They are all fond of light positions, and should be placed in such on the stage, or grown in pans and suspended. Yellow thrip is a great enemy, and if the pest cannot be dislodged by fumigation, tobacco powder should be dusted down the axils of the leaves.

Chysis bractescens is a noble Orchid when its flowers are produced in large trusses, which is the case only when the pseudobulbs are large themselves. It is an easy species to succeed with when newly imported, but, like some few others, will deteriorate if not given a treatment meeting its requirements in a reasonable degree. It will do well and last for a longer or shorter period treated as an intermediate Orchid, but does far better eventually if grown with the Dendrobiums when making its growth, and resting with them afterwards. It is best accommodated in baskets, and delights in a liberal supply of water when growing.

Cælogyne Dayana having flowered may be shifted into larger baskets or pans. This beautiful garland Orchid is always greatly admired, its long drooping racemes adding variation to the already long list of Orchids that bloom in May and June. It is not a difficult Orchid to cultivate, and may be treated either as an intermediate or stove plant. It delights in liberal waterings when growing, and comparative drought when resting.

ORCHIDS IN SEASON.

JUNE will again bring us to our summer period, which is always so well advertised by the beautiful month of May, and this has again disappeared, taking with it the last souvenir of awakening spring. Indoors as well as outside everything seems to be favoured by the bright sun, and Orchids as well as our garden plants seem to be making headway, and have taken again their pleasant dress.

In the Orchid houses the work has extensively increased by the required treatment of our favourites, which have already recovered the effects of the late winter, but June will not bring us such a large display of flowers as the two previous months. However, in a general collection it is still a gaily decorated period, for numerous species remain in flower from four to five weeks.

In the Cool house many plants are still in bloom. Sobralias and Cymbidiums contain some really excellent species, and various Oncidiums and Miltonias will remain in flower for the forthcoming month, together with the well-known Cattleya citrina, now showing its last beautiful and scented flowers.

The Intermediate department is again gaily decorated by the showy Cattleya Mossiæ, Gaskelliana, and a few late Mendelii and Warneri, also the dwarf C. Aclandiæ. A few Epidendrums and Maxillarias are also in full bloom, together with the old but always showy Lælia purpurata.

The Warm house also remains fairly well adorned with the late Dendrobiums, Devonianum, Pierardi, and the tall Dalhousieanum. Cypripediums are also forming a fine display, and the sweet-scented Diacrium bicornutum, which always remains in flower for six or eight weeks if kept on the dry side, and is accordingly valuable.

If we once again take our monthly glance round our houses we shall certainly notice a few more interesting summer-blooming plants sending forth their spikes, but it is surprising to notice how much less productive are the summer months compared with the preceding ones in the number of our favourites in bloom. Among Cool house plants, a few are still sending forth their spikes, and will open during the course of the month. How distinct is the rare and pretty Chondrorhyncha Chestertoni, which, when well grown, flowers twice a year. Very interesting are some of the cool Cypripediums, chiefly C. Calceolus, pubescens and spectabile, which of course can be grown very freely outside. Disas will soon be in season, for they are now pushing their long spikes. D. grandiflora is no doubt the largest flowering species. Some of the hybrids are very valuable for decorative purposes, but D. × kewensis is certainly the best, though D. × Premier, D. × langleyensis and D. × Veitchii are all remarkable hybrids. Amongst natural species

D. racemosa and tripetaloides, belonging to the Cape Flora, are showing for flower. A few Masdevallias are pushing up their flowers, as M. Chimæra, sevéra, × Hincksiana and maculata. Very peculiar is the sensitive M. muscosa, with its small greenish flowers, which possess the faculty of closing up their lips on being touched. This species is a free-growing one when treated in the Cool department. A few spikes of Odontoglossum can still be seen, and O. hastilabium, cristatellum, Lindleyanum, and many other varieties are opening their flowers. The beautiful Sobralia xantholeuca, which forms such a contrast with S. macrantha, must also not be omitted.

In the Intermediate house several things are also promising. The very showy Cattleya Warscewiczii (gigas) is now pushing its flowers in the sheath, also Lælia crispa, grandis, and tenebrosa. Lælio-cattleya × Schilleriana is now very fine. The free-growing Dendrobium clavatum is showing its fine racemes on the top of the bulbs. Several Epidendrums are also to be mentioned, as E. alatum, conopseum, Candollei, Hanburii, and nemorale, which will soon flower. E. variegatum and vittellinum majus are now in full bloom. Habenaria decipiens and tetrapetala are opening. Among Lycastes a few varieties are still flowering, as L. Barringtoniæ, Deppei, and leucantha, also several Maxillarias. Oncidiums will be represented by O. pumilum, sphacelatum, Marshallianum, and crispum, and before leaving the house we must once again mention the beautiful Calanthe × Dominii, a hybrid which certainly gives a great deal of honour to Dominy's work.

In the Warm house the display is not great, though a few plants are still pushing up their spikes, amongst which we shall have to mention the showy Aërides roseum, radicosum, and virens. Vanda suavis and tricolor are also very fine. Several other plants are beginning to appear, as Brassavola Perrinii, Brassia verrucosa, and the curious Diacrium indivisum, which is now open. Cypripediums are at present forming a grand display, and numerous are the species in flower. C. bellatulum and niveum are really very fine, C. Rothschildianum, Parishii, superbiens, Dayanum, Curtisii, Victoriæ-Mariæ and the allied C. Chamberlainianum, are all in full bloom, and C. × Ashburtonæ is showing its buds. A few more Dendrobiums are flowering, viz., D. herbaceum, Maccarthiæ and cretaceum, also the free-blooming Galeandra Batemanni and the showy Grammangis Ellisii, which are quite rare in collections. Several Phaiuses are now in full bloom, and several Epidendrums ought to be mentioned, as the quite distinct E. Parkinsonianum, and the two closely-allied and very fragrant E. Hartii and subpurum. Very rich in colour are the flowers of the dwarf Sobralia Lowii, and no doubt, if crossed with S. xantholeuca or decora, the result would be good.

ODONTO.

EULOPHIELLA ELISABETHÆ.

THE accompanying illustration represents a fine specimen of Eulophiella Elisabethæ which flowered at Kew during the present spring, reproduced from a photograph taken by Mr. A. Griessen, now in charge of the Orchid department there. It is one of the best examples of the species which we

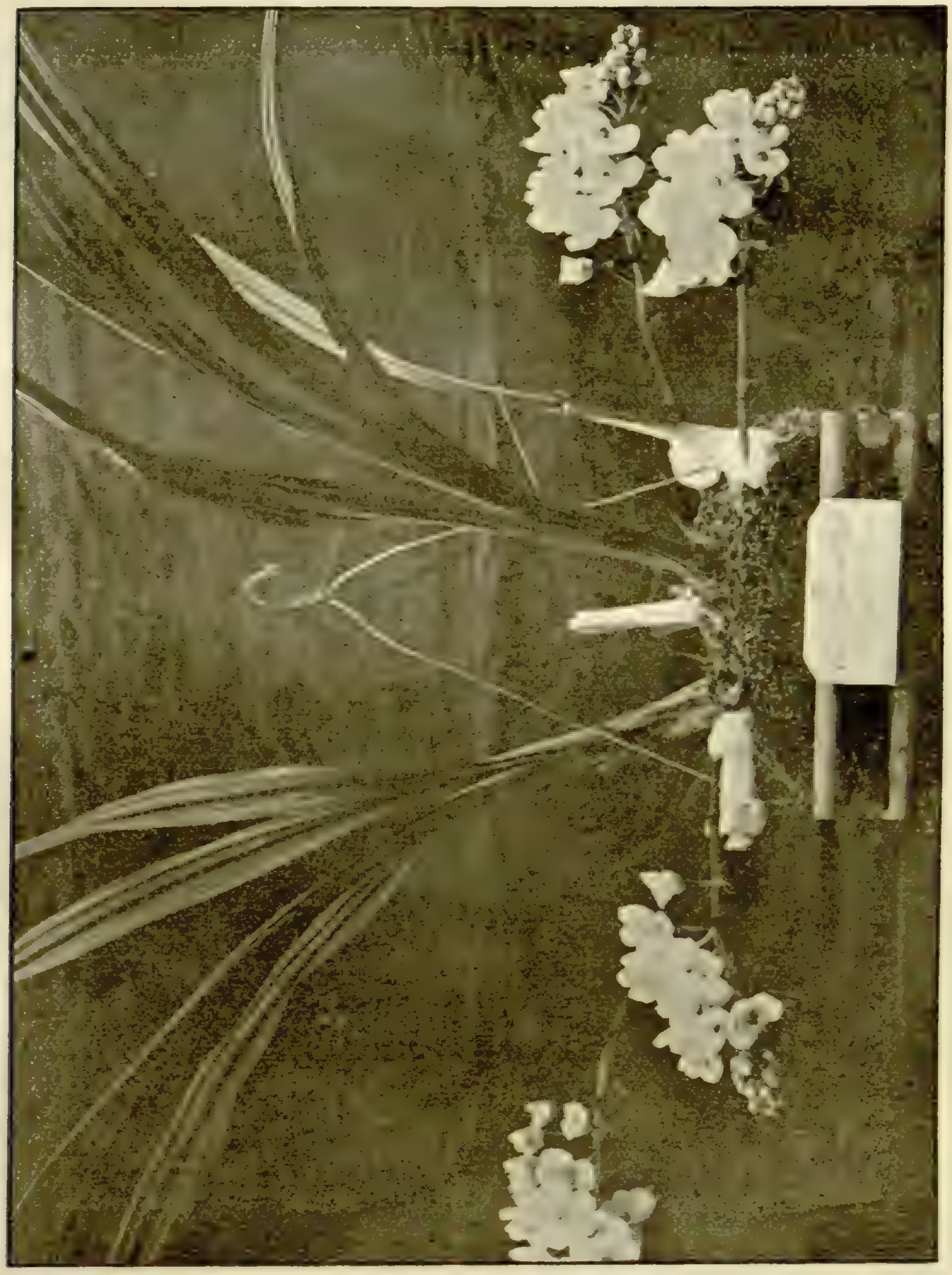

FIG. 6. EULOPHIELLA ELISABETHÆ.

have seen, the leaves and flower spikes being very luxuriant, and the photograph had to be taken on a very reduced scale. The history of this Orchid will be too fresh in the minds of our readers to need repetition, as it has already been fully detailed in these pages, but we may add that the plant proves to have an excellent constitution, and only requires a good

position in the warmest house, moderate shading, and a liberal supply of water when actively growing, in order to ensure success with it. The recently-introduced E. Peetersiana promises to be a still greater horticultural acquistion.

DENDROBIUM NOBILE, VARIEGATED.

An interesting variety of Dendrobium nobile with variegated leaves is recorded in the *Gardeners' Chronicle* for May 14th last (p. 299), by Mr. G. Ringham, gardener at Wrotham Park, Barnet. It is said to have originated on a plant bought five years ago from the Liverpool Horticultural Co. As soon as growth commenced a small variegated shoot was observed in the centre of the plant, which ultimately matured into a pseudobulb four inches long. It gradually increased in size until last year's bulbs were fourteen inches long. This spring the variegated portion was separated for the first time, and placed in a small basket, and the leaves still retain their variegated character—some creamy-white longitudinal stripes among the green—but it has not yet flowered. A week later (p. 316) another example was recorded, by Mr. J. Farquharson, The Gardens, West Denton, Scotswood-on-Tyne, the variegation being described as very similar to that of Dracæna Lindeni. It is described as a small plant, which was removed from a very large one, in a twelve inch pot, that has been in the establishment for a period much longer than five years, and is just the ordinary type of D. nobile. When the variegation was first observed is not stated. These examples are certainly interesting.

ORCHIDS AT TWICKENHAM.

We have several times had occasion to mention the collection of H. Little, Esq., The Barons, East Twickenham, which contains many very fine Orchids. At the present time Vanda teres is making a fine show, the plants being placed at one end of a warm house where they get plenty of sun without any attempt at shading, which treatment suits them precisely. One small plant is bearing a curious flower, without the characteristic twist in the petals, but as it is not much over half the normal size, and the disc of the lip is very pale in colour, the peculiarity may arise from its not being properly developed. Cattleyas were making a brilliant display, C. Schilleriana, C. Lawrenceana with seven flowers, and the nearly white C. Schrœderæ albens, being very beautiful. A superb form of Lælio-cattleya × Schilleriana, and Lælia purpurata with exceptionally large lip, were also

conspicuous. Numerous Cypripediums were in flower, including C. Exul in variety, one flower having the lower sepal variegated with white and yellow, the rare C. Druryi, and C. × Littleanum, the fine natural hybrid from C. Lawrenceanum and C. Dayanum, figured at page 209 of our third volume, and it may be remarked that the characteristic hairs of the latter were specially well developed on this occasion, so long in fact as to remove the last doubt of this species being the other parent. Dendrobium primulinum giganteum was specially fine, one flower measuring $1\frac{3}{4}$ inches across the lip, a circumstance altogether exceptional. Several good D. thyrsiflorum, a well bloomed Ansellia gigantea, Leptotes bicolor with half-a-dozen good flowers, and a dozen plants of Cymbidium Lowianum must also be mentioned, as reflecting great credit on Mr. Howard's management of the collection.

HYBRID ODONTOGLOSSUMS.

(*Continued from vol.* iii, p. 329).

ODONTOGLOSSUM × ADRIANÆ.—An additional hybrid must now be added to those from the Bogota district. Odontoglossum Hunnewellianum was originally described as coming from the Bogota district, and now evidence comes to hand that it grows intermixed with O. crispum. Some time ago I saw plants of it which were said to have appeared in an importation of O. crispum, and more recently several examples have flowered which are so precisely intermediate between the two species as to leave no doubt that they are natural hybrids derived from this parentage. The first which I know of flowered in the establishment of Messrs. L. Linden & Co., at Moortebeek, last season, and was described and figured under the name of O. × Adrianæ (L. Lind. in *Sem. Hort.*, i, p. 150 ; *Lindenia*, xiii, p. 31, t. 590). Then plants flowered in the collection of W. Thompson, Esq., Walton Grange, Stone, and R. G. Fletcher, Esq., of Withdeane, Brighton. I also saw examples at Moortebeek last month, and at the Temple Show in the collections of Messrs. Linden (three or four plants), Sander, and M. A. Madoux. These I have seen, besides which I have heard of two or three other plants, most of them having flowered among O. crispum, possibly, I would suggest, from a different locality, otherwise the hybrid would probably have been noticed before.

The different plants vary somewhat in size, shape, and markings, as hybrids generally do, but all combine the characters of the two parents. The sepals and petals are broad, and light yellow in colour, often whitish towards the centre, and bear numerous red-brown spots, those on the sepals being more or less confluent into larger blotches. The lip is also broad and

undulate, often most resembling O. Hunnewellianum in shape, the ground colour nearly white with numerous red-brown spots, in some cases margined with a row of minute spots, especially towards the base. The crest and column wings are fairly intermediate in shape, though the latter are sometimes nearly as entire as in O. Hunnewellianum, and at others more toothed as in O. crispum. It is certainly a very handsome hybrid, and its sudden appearance in quantity is very curious. Messrs. Linden write that they received both the parent species and the hybrids all in the same importation.

In a note at page 5 of this volume it was called a hybrid "raised by Messrs. Linden, between O. crispum and O. Hunnewellianum, the former presumably the seed parent," which it now appears is a mistake, for the plant is a natural hybrid. In the *Lindenia* description, however, the remarks occur:—"Ce bel hybride est issu d'O. crispum et de l'O. Hunnewellianum . . . Le produit de ce croisement a fort heureusement combiné les charactères des deux parents . . . L'O. × Adrianæ a fleuri pour la première fois au printemps de cette année," which would easily lead one to infer that it had been raised artificially. If it had been clearly stated that the plant was an imported one, but evidently a natural hybrid between O. crispum and O. Hunnewellianum, no such mistake could have occurred. It is a matter of great importance that we should carefully distinguish between natural hybrids and those raised in gardens.

R. A. Rolfe.

(To be continued.)

ORCHIDS AT THE MANCHESTER ROYAL BOTANICAL GARDENS.

The great Whit-week Show at these well-known Gardens, opened on Friday, May 27th, and was quite up to its usual standard, notwithstanding the competition of the Temple Show in London. Orchids were particularly well represented, and there were several splendid groups from exhibitors who rarely, if ever, go southwards, which were quite up to the standard of the Temple exhibits as far as diversity, value, and good cultivation went.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), obtained the First Prize of £20 for a fine group, in which were a fine lot of Cattleya Schrœderæ varieties, C. Mossiæ, C. Mendelii, Lælia purpurata, Odontoglossum cirrhosum Klabochorum, O. crispum Lindeni, Miltonia vexillaria, Cypripedium niveum, Cattleya intermedia alba, and Dendrobium Victoria-Reginæ with violet and white flowers, and others.

In the same class, A. Warburton, Esq., Vine House, Haslingden (gr. Mr. Lofthouse), gained the Second Prize (£12), with a similiar group, but

with not so many novelties. The plants were, however, well grown and the Cattleyas were very fine. C. Mendelii Duchess of York, with fine white sepals and petals and a deep purple-throated lip, obtained an Award of Merit, as did also L. purpurata Brysiana, with deep-flaked purple petals, and C. Mossiæ Prince of Wales. The feature of the group, however, was Odontoglossum crispum Moortebeekiense, which obtained a First-class Certificate, and was valued at £400. The flower was pure white with large chocolate-purple blotches. A small plant of Dendrobium × Nestor, with deep purple flowers and a very hairy lip, was in the group.

For the best miscellaneous collection of Orchids among nurserymen, Mr. James Cypher, of Cheltenham, obtained the First Prize (£10) for a beautiful set up group, in which were some fine Odontoglossum crispum, Cattleya Skinneri, Lælia purpurata, Thunia alba, Oncidium Papilio, O. cucullatum, and O. sphacelatum with several densely clothed branched spikes of yellow and chocolate blooms.

Mr. John Robson, of Altrincham, was awarded the Second Prize (£5) in the same class, his plants of Cattleya Mossiæ, C. Mendelii, C. Schilleriana, Dendrobium thyrsiflorum, Cypripediulum bellatulum and Lælia purpurata, being all strong and well grown.

Messrs. Heath & Son, Cheltenham, obtained the Third Prize. Lælia purpurata predominated in this group, and was very effective with its white and purple flowers. Other plants were Phalænopsis amabilis, Cymbidium Lowianum, Pholidota conchoidea, with drooping spikes of pearly yellow flowers, Cypripedium Mastersianum, Lawrenceanum, &c.

For the best collection of Cattleyas and Lælias, T. Statter, Esq., Stand Hall, Whitefield (gr. Mr. Johnson), got the First Prize (£5) for some splendid specimens of C. Mossiæ and C. Mendelii varieties, Lælia purpurata varieties, Lælio-cattleya × Phœbe, &c. All the plants showed evidence of fine cultivation.

Duncan Gilmour, Esq., Sandygate, Sheffield, obtained the Second Prize (£3). His group contained two plants of Lælia tenebrosa, and several Cattleya Mossiæ. C. M. Black Prince, with very large deep purple flowers and a brilliant lip, was especially attractive.

For the best collection of Specimen Orchids in bloom, E. Ashworth, Esq. (gr. Mr. Holbrook), gained the First Prize (£8) for ten beautiful plants, four of which were varieties of Lælia purpurata. The most noticeable, perhaps, were Cattleya Skinneri alba, a really lovely specimen with eleven beautiful white flowers, Cypripedium Rothschildianum, and Odontoglossum luteopurpureum Vuylstekeanum with its remarkable yellow flowers.

Mr. James Cypher, Cheltenham, took the Second Prize (£4). He had a fine Cattleya Skinneri, Oncidium Marshallianum, O. superbiens, Lælia icnnabarina, and Cymbidium Lowianum.

Thos. Harker, Esq., Didsbury (gr. Mr. Molloy), gained the Third Prize (£3) for a good group, in which were five good Dendrobiums.

In the non-competitive groups, Messrs. B. S. Williams & Son, of Upper Holloway, staged a nice group of Orchids, in which were Odontoglossum crispum, O. cirrhosum, Oncidium concolor, Lælia × Latona, which obtained an Award of Merit, and Cypripedium × Lebaudyanum. A Silver Medal was given to the group.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, exhibited a collection of cut flowers of Cattleya Mossiæ, C. Skinneri, Lælio-cattleya × Hippolyta, Miltonia Roezlii, &c.

From Messrs. Fisher, Son and Sibray, of Sheffield, came several Orchids, in which Lælia purpurata, Dendrobium thyrsiflorum and Cattleya Mossiæ figured. A variety of the latter, named "Valhalla," a fine flower with a beautifully mottled lip, obtained an Award of Merit. Cattleya Mendelii Lilian with pure white flowers, having only a purple stain on front of the lip, also received an Award of Merit.

Messrs. Charlesworth & Co., Heaton, Bradford, exhibited a large and select group, for which a Silver Medal was awarded. Cattleyas, Odontoglossums, Cypripediums, Miltonias, Lælias, Masdevallias, Oncidiums, Dendrobiums, &c., were in great variety and produced a fine flowering sight.

Mr. A. J. Keeling, High View Nurseries, Cottingley, Bingley, Yorks, also obtained a Silver Medal for a group of Odontoglossums, Cattleyas, Miltonias, &c.

Messrs. John Cowan & Co., Liverpool, staged a large group, in which Lælia purpurata, Odontoglossum crispum, and Cattleya Mossiæ predominated. It also contained a fine specimen of Masdevallia psittacina with about sixty flowers; Cypripedium caudatum well grown; and Brassia Keiliana tristis with deep chocolate sepals and petals and pale creamy-yellow lip.

Messrs. James Veitch & Sons, Chelsea, showed several beautitul Orchids, one of which, Lælio-cattleya × Eudora, won the Gold Medal in the class for the best hybrid Orchid. L.-c. × Ascania is a lovely hybrid, as is Cypripedium × Clonius.

Messrs. F. Sander & Co., St. Albans, were awarded a Gold Medal for a group in which were some really good varieties, the most noticeable being a huge specimen of Cypripedium Mastersianum with about twenty-four flowers. Odontoglossum crispum was in great variety, as were also Cattleyas, while mention must also be made of the pure white Cypripedium bellatulum album and the pure white Sobralia macrantha Kienastiana.

J. W.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

At the meeting held at the Coal Exchange, Manchester, on May 19th last, some very good Orchids came before the committee, of whom the following were present:—Messrs. G. Shorland Ball (in the chair), Gratrix, Leemann, Warburton, Backhouse, Weathers, Cypher, Johnson, Robson, Holmes, Bolton, and Mills (hon. secretary).

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Hay), showed a very fine form of Cypripedium bellatulum with numerous large dark spots (A. M.), and cut blooms of C. caudatum roseum, C. Curtisii virescens, Laelia purpurata alba, and a very distinct form of Lycaste Skinneri with an almost pure white lip.

D. B. Rappart, Esq., Liscard (gr. Mr. Nicholson), showed Cattleya Skinneri alba, a pure white flower with the exception of the typical purple marking at the top of the throat (F. C. C.)

Samuel Gratrix, Esq,, Whalley Range (gr. Mr. McLeod), showed Cypripedium × Gratrixiæ (vexillarium × bellatulum), a very pretty form, partaking of the pollen parent's characteristics in shape and size, and following the seed-parent in colour (F. C. C.), and C. × S. Gratrix (bellatulum × Godfroyæ), an interesting and distinct flower (A. M.)

John Leemann, Esq., Heaton Mersey (gr. Mr. Hedge), showed a fine plant and good variety of Cypripedium bellatulum (A. M.) Odontoglossum × Wilckeaum (A. M.) Cattleya Skinneri alba, a very fine plant with three large spikes of bloom, but showing slight colouring on the lower part of the labellum (A. M.), Cattleya Schrœderæ alba, a small flower, which would no doubt be better from a strong growth (A. M.), and Cypripedium × Harrisianum superbum.

Gustav Kleinjung, Esq., Alderley Edge (gr. Mr. Oakes), showed Maxillaria tenuifolia, which was awarded a Botanical Certificate.

Duncan Gilmour, Esq., Sheffield (gr. Mr. Day), showed Cattleya Mossiæ Black Prince, an excellent form with dark petals and sepals and specially dark lip (A. M.), C. M. Boadicea, a very large lighter form with beautiful striped well-expanded lip, together with three other good forms of C. Mossiæ, and Odontoglossum citrosmum, a very pretty and distinct form with light buff petals and sepals and dark mauve lip (A. M.)

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), showed Cypripedium Rothschildianum and C. × selligerum majus.

Mr. James Cypher, Cheltenham, showed a very fine dark-lipped form of Cattleya Mendelii (A. M), and a very dark Miltonia vexillaria rosea (A. M.)

Mr. John Robson, Altrincham, showed Odontoglossum × Rochfordianum

(entered as Hunnewellianum × crispum), a very pretty form with white petals and sepals heavily spotted with brown (A. M.) It is flowering from a very small bulb, and should be very good when stronger. He also sent O. crispum magnificum (A. M.)

Messrs. James Backhouse and Son, York, showed Cattleya Mendelii gigantea, an exceptionally large form (A.M.)

The following resolution was passed by the Committee :—

"That the Gold, Silver Gilt, and Silver Medals of the Society be awarded at the end of the Society's year to the three members who have gained the greatest number of points for exhibits at the Society's meetings during the year, such points to be calculated according to the following scale :—

Medal	10	points
First-class Certificate	4	,,
Award of Merit	2	,,
Botanical and Cultural Certificates ...	1	,,
Vote of Thanks	1 to 6	,,

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

At the Royal Horticultural Society's meeting, held at the Drill Hall, James Street, Westminster, on May 10th, the last prior to the great Temple Show, Orchids were very well represented, and included three which gained the coveted honour of a First-class Certificate.

Present : H. Little, Esq., in the Chair ; and Messrs. J. O'Brien (Hon. Sec.), H. Ballantine, T. W. Bond, H. J. Chapman, W. Cobb, De B. Crawshay, J. Douglas, J. T. Gabriel, T. B. Haywood, E. Hill, J. Jacques, H. M. Pollett, W. H. Protheroe, T. Statter, F. J. Thorne, and W. H. Young.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), staged the superb Lælio-cattleya × Hippolyta Dulcote variety, which on this occasion was awarded a First-class Certificate. The inflorescence bore five large and very brilliantly-coloured flowers.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), exhibited the very handsome Lælio-cattleya × Fascinator (C. Schrœderæ × L. purpurata), to which a First-class Certificate was given. It is intermediate in shape, with pale-rose sepals and petals, and a very broad lip, rich purple-crimson in front, with the throat white, tinged with yellow in the centre.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. Davis),

showed a very fine form of Cattleya intermedia called Fowler's variety, bearing an inflorescence of five very fine flowers, with blush-white ground (Award of Merit).

Fred Hardy, Esq., Tyntesfield, Ashton-on-Mersey (gr. Mr. Stafford), sent the handsome Cattleya × Lawre-Mossiæ, Cypripedium × Goweri magnificum, flowers of Sobralia macrantha Kienastiana, and the very distinct and pretty Sophro-cattleya × George Hardy (C. Aclandiæ × S. grandiflora), a dwarf plant most like the Cattleya parent in habit, and bearing a single light reddish-crimson flower, with some yellow at the base of the lip. It received an Award of Merit.

Major Joicey, Sunningdale Park (gr. Mr. Thorne), sent the rare Eriopsis rutidobulbon, and Anguloa Ruckeri with six flowers proceeding from a single growth, the latter receiving a Cultural Commendation.

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, sent Epidendrum Brassavolæ, the rare E. campylostalix, aud E. chitagense, the latter receiving a Botanical Certificate.

Philip Crowley, Esq., Waddon House, Croydon (gr. Mr. Harris), sent a good form of Cypripedium hirsutissimum.

Welbore S. Ellis, Esq., Hazelbourne, Dorking (gr. Mr. Barrell), exhibited two well-grown and flowered plants of Miltonia vexillaria, and several excellent examples of Odontoglossum crispum.

W. G. Soper, Esq., Hareston, Caterham Valley (gr. Mr. Wood), showed a very good plant of Miltonia vexillaria, grown with lumps of chalk for drainage, which is thought to benefit the plant.

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr. Mr. Johnson), showed a large, light-coloured hybrid called Cypripedium × macrochilum giganteum superbum.

Reginald Young, Esq., Fringilla, Linnet Lane, Sefton Park, Liverpool (gr. Mr. Poyntz), showed Cypripedium × Belus (Harrisianum nigrum ♀ × Mastersianum ♂), most like the pollen parent in shape, but darker in colour. The plant was six years old, having been sown in 1892.

Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea, staged a large and handsome group, to which a Silver-gilt Flora Medal was deservedly awarded. It contained the handsome Lælio-cattleya × Wellsiana, L.-c. × W. albida, with white sepals and petals, Lælia × Latona, some very fine plants of Cattleya Mendelii, a fine C. intermedia alba, C. Schrœderæ, various fine Odontoglossums, Calanthe masuca, Cirrhopetalum picturatum, some good Masdevallia Veitchiana, Cypripedium Mastersianum, Angræcum modestum, the striking Brassia brachiata, Epidendrum Wallisii, E. × elegantulum, and other interesting things. A First-class Certificate was awarded to Spathoglottis aureo-Vieillardii, which has developed into a very handsome thing.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, exhibited a handsome group, containing some good Odontoglossum crispum, Lælia purpurata, Cattleya Mendelii and others, Cypripedium Rothschildianum, Vanda teres candida, Bulbophyllum claptonense, a pretty species near B. Lobbii, &c. A Silver Banksian Medal was awarded.

Messrs. Linden, L'Horticulture Internationale, Brussels, sent a fine group of cut spikes of Odontoglossum crispum and Miltonia vexillaria, a branched spike of the latter being exceptionally fine.

Mr. John Robson, Bowdon, Cheshire, sent a pretty Odontoglossum called O. × Rochfordianum, a supposed natural hybrid between O. crispum and Hunnewellianum, and thus apparently a form of O. × Adrianæ.

THE TEMPLE SHOW.

THE great annual show of the Royal Horticultural Society was held in the Temple Gardens, Thames Enbankment, on May 25th, 26th, and 27th, and being favoured with fine weather, brought together a magnificent display of plants and a large number of visitors, we believe quite up to the average of preceding years. Orchids were exhibited in large numbers and excellent quality, the display in this department, at least, being much finer than at Ghent. The arrangement was similar to that of previous years, and, as usual, some of the groups would have been more effective could a little more space have been devoted to them.

The premier group was certainly that staged by Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), to which a Gold Medal was deservedly awarded. It occupied a space with a frontage of 25 feet, and contained a rich assortment of nearly all the showy Orchids of the season, together with many botanical gems, and the whole very tastefully arranged. Among those specially noted, we may mention a fine Cattleya Skinneri alba, C. intermedia Parthenia, C. Mossiæ Wageneri, C. Lawrenceana, and many other fine Cattleyas, the curious Schomburgkia tibicinis with a long spike, the handsome Epiphronitis × Veitchii with six spikes, Aërides crispum, Miltonia vexillaria in excellent examples, a fine clump of Macodes petola under a bell glass, the violet-purple Dendrobium Victoria-Reginæ, D. O'Brienianum striatum, D. Parishii albeus, and the rare D. Hughii, Acacallis cyanea, the tiny Masdevallia O'Brieniana, a well-flowered M. rosea, M. Arminii, M. caudata xanthocorys, the very distinct M. pachyura, and the handsome M. × Shuttryana Chamberlainii, the brilliant Habenaria rhochila, the rich crimson Renanthera Imschootiana, Epidendrum glumaceum, the scarlet E. Schomburgkii, E. Endresii, E. × Endresio-

Wallisii, and E. × elegantulum, Saccolabium miniatum, a mass of flowers, Stelis prolifera, the rare Polystachya bulbophylloides, Cirrhopetalum fimbriatum, the remarkable Microstylis macrochila, the rare Eria Clarkii, some excellent examples of Lælia purpurata and its varities. Cypripedium × Dauthieri Albino, C × Eleanor, very fine, a very large flowered C. Hookeræ, and the handsome Burford variety of C. × Olenus with a twin-flowered spike, Odontoglossum cirrhosum with several fine panicles, some fine forms of O. crispum, and other good Odontoglossums, Colax jugosus very well flowered, Sobralia macrantha Kienastiana, Brassia verrucosa, Cymbidium tigrinum, a very fine C. Lowianum, Diacrium bicornutum, and other fine things which we have not space to enumerate.

H. S. Leon, Esq., Bletchley Park (gr. Mr. A. Hislop) staged a very effective group of well-grown Orchids, to which a Silver Cup was awarded. It contained some excellent Cattleya Mossiæ, a splendid specimen of C. Skinneri with six very fine spikes, C. Lueddemanniana Ernesti with three enormous richly coloured flowers, C. Lawrenceana, C. Schrœderæ, some very good C. Schilleriana, Lælia purpurata, several good Oncidium concolor, of which O. c. superbieus with branched raceme of enormous flowers was the best, Vanda teres, tricolor, and suavis, Platyclinis latifolia, Calanthe veratrifolia, some very fine Odontoglossums, Epidendrum vitellinum, a striking form of E. radicans with very broad round lip, Cypripedium Mastersianum, Dendrobium nobile, Bletchley Park variety, white with light purple disc, and other good things.

The Right Hon. Earl Percy, Sion House, Brentford (gr. Mr. Wyethes), also received a Silver Cup for a fine group of plants in excellent condition. It contained two fine batches of Cypripedium barbatum Warneri, some fine Cattleya Mossiæ, C. Schilleriana, some very fine Lælia purpurata, Cymbidium Lowianum, a fine Cœlogyne Dayana, Dendrobium Pierardi with many flowers, D. Gibsoni, and D. thyrsiflorum, some good Odontoglossum crispum, O. gloriosum, triumphans. cirrhosum, Pescatorei, and Reichenheimii, some well grown Vanda teres and Miltonia vexillaria, Thunia alba, T. Marshalliana, Oncidium Marshallianum, &c.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. W. H. Young), also staged a large and effective group, to which a Silver Cup was given. The most noteworthy plants were Cattleya Skinneri and C. S. alba, C. Mendelii, C. intermedia Parthenia, some very fine C. Mossiæ, C. Lawrenceana, Odontoglossum crispum, O. citrosmum punctatissimum, O. polyxanthum, and other good Odontoglossums, Oncidium concolor with eight spikes, Brassia brachiata, Vanda teres, Cymbidium Lowianum, Miltonia vexillaria, Aërides Fieldingii, Phalænopsis amabilis, Dendrobium Victoria-Reginæ, the pretty little Eria extinctoria, Epidendrum hastatum, Disa × Veitchii, some fine Lælia purpurata, Cypripedium callosum Sanderæ,

C. bellatulum album, C. Chamberlainianum, a very fine C. caudatum, an excellent C. Lawrenceanum, and C. barbatum.

M. Jules Hye-Leysen, Coupure, Ghent, received a Silver-gilt Flora Medal for a small group of superb things, including the brilliant Lælia × Latona, a remarkable form of Lælio-cattleya × highburiensis (raised between C. Lawrenceana and L. cinnabarina) with the sepals and petals deeply flamed with purple, Odontoglossum luteopurpureum Vuylstekeanum, O. sceptrum, O. polyxanthum with enormous flowers, a plant called O. × cordato-crispum, said to have been raised by hand, which looks so precisely like a form of O. × Wilckeanum as to suggest grave doubts as to its parentage, and Miltonia × Bleuana roseo-gigantea, a magnificent form with a lip 3 inches across, to which an Award of Merit was given.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens), also received a Silver-gilt Flora Medal for a fine group of Odontoglossums, including O. crispum fastuosum, O. c. Thompsonianum, a very large and heavily blotched form, O. c. Capartianum, O. c. Lily, suffused and densely spotted with rose-purple, a very pretty O. Hunnewellianum, handsome forms of O. × excellens, O. × Wilckeanum grande, the spike bearing two side branches and an aggregate of 28 flowers and buds, O. × Andersonianum with a fine panicle of flowers very little spotted, and a very good O. tripudians, all exceedingly well grown.

Malcolm S. Cooke, Esq., Kingston Hill (gr. Mr. Buckell), staged a very pretty group, to which a Silver-gilt Banksian Medal was given. It included a good Maxillaria Sanderiana, Cochlioda sanguinea, some good Cattleya Mossiæ and Mendelii, Miltonia vexillaria, Odontoglossum crispum, O. Pescatorei, O. polyxanthum, Brassia verrucosa, Masdevallia coccinea, M. Schlimii, Cymbidium Lowianum, and others.

Ludwig Mond, Esq., Regent's Park (gr. Mr. Clarke), staged a nice group to which a Silver Banksian Medal was also given. It included a good Cymbidium Lowianum, Cypripedium Mastersianum, some good Miltonia vexillaria, Odontoglossum citrosmum, crispum, and others, Cattleya Mossiæ, and good forms of other showy Orchids.

E. Ashworth, Esq., Harefield Hall, Wilmslow (gr. Mr. Holbrook), showed a fine Cirrhopetalum Collettii, bearing 4 fine racemes.

W. P. Burkinshaw, Esq., Hessle, near Hull (gr. Mr. Barker), sent a very fine Cypripedium Rothschildianum, with 3 flowers, Cattleya Mendelii Amelia, a very good light form, and C. Mossiæ Barkeri, much like C. M. Reineckeana, but with lilac-purple veinings on the front of the lip.

R. S. Bond, Esq., Surbiton (gr. Mr. Pead), exhibited a hybrid Odontoglossum said to be derived from O. crispum and O. triumphans, and thus a form of O. × loochristiense. The oldest remaining bulb, however, was very little smaller than the flowering one, and doubts were suggested as to its

origin and parentage, some considering it to be a form of O. × Wilckeanum.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), showed a fine specimen of Epidendrum prismatocarpum with nine spikes.

M. A. Madoux, Anderghem, Brussels, sent Lælia × Latona superba, a particularly fine form, Odontoglossum crispum Trianæ, and O. × Adrianæ Charlesianum, a very pretty densely spotted form, to which an Award of Merit was given.

H. Shaw, Esq., Heathfield, Stockport (gr. Mr. Cliffe), sent the pretty little Dendrobium Loddigesii, and a very fine Miltonia vexillaria.

T. Statter, Esq., Stand Hall, Whitefield, Manchester (gr. Mr. Johnson), sent a plant of the striking Dendrobium Victoria-Reginæ.

Messrs. Charlesworth & Co., Heaton, Bradford, staged a splendid group, to which a Silver Cup was awarded. It contained several plants of Masdevallia Veitchiana with an aggregate of over 120 flowers, some good Odontoglossum crispum, O. × Andersonianum beardwoodense, with very broad sepals and petals spotted and blotched with red-purple, a good O. Œrstedii, O. cordatum, O. Uroskinneri, and others, the brilliant Cochlioda Nœtzliana, the rare Stauropsis gigantea, several nice Dendrobium Dearei, Lælio-cattleya × intermedio-flava Golden Queen (C. intermedia ♀ × L. flava ♂) a handsome form with deep yellow segments, to which an Award of Merit was given, L.-c. × Admiral Dewey (C. Warneri ♀ × L.-c. × elegans ♂), a most brilliant hybrid, which secured a First-class Certificate, Lælio-cattleya × Schilleriana, home-raised between Lælia purpurata and Cattleya intermedia, and thus specially interesting, L.-c. × radiata (L. purpurata × C. dolosa), some very good Cattleya Lawrenceana, C. × Fernand Denis (Aclandiæ ♀ × Warscewiczii ♂), with two handsome flowers, to which a First-class Certificate was given, C. × Breauteana (which, like the preceding, was described in our last volume), some good Vanda teres, Cymbidium tigrinum, Epilælia × Charlesworthii (L. cinnabarina ♀ × Epidendrum radicans ♂), most like the latter except in having elongated segments, Lælia × cinnabrosa (cinnabarina ♀ × tenebrosa ♂), most like the former in shape, but the orange sepals and petals partly suffused with purple, and the lip resembling L. tenebrosa in colour, and numerous examples of the commoner showy Orchids of the season.

Mr. J. Cypher, Cheltenham, also received a Silver Cup for a very fine group, including excellent examples of most of the showy Orchids of the season, the varieties of Lælia purpurata being specially good. Those specially noted by us were Mormodes pardinum unicolor with two fine racemes, Cattleya citrina, C. Aclandiæ, C. Lawrenceana, C. Schilleriana, and others; Lælia-cattleya × highburiensis, a small Restrepia elegans with many flowers, Anguloa Clowesii, Oncidium olivacum, a good O. Marshallianum, O. Papilio, and O. Kramerianum, some good Odontoglossum crispum, the

charming O. nævium with five racemes, O. apterum, and other good Odontoglossums, Dendrobium Dearei, Epidendrum × O'Brienianum, Cypripedium Exul, Masdevallia rosea with a dozen flowers, M. tovarensis, the rare M. Schlimii, &c.

Messrs. Linden, L'Horticulture Internationale, Brussels, staged a large and very effective group, chiefly of Odontoglossums, which received a Silver Cup. It contained a very fine series of O. crispum varieties, of which zebrinum and decorum each secured an Award of Merit. Other striking things were several pretty forms of O. × Adrianæ, a natural hybrid between O. crispum and O. Hunnerwellianum, of which O. × A. venustum secured a First-class Certificate, O. × Ruckerianum, O. × Coradinei, O. Pescatorei grandiflorum, O. P. bellatulum (Award of Merit), O. × Wilckeanum in several fine varieties, O. Hallii excellens, O. triumphans, O. polyxanthum, O. sceptrum, O. Hunnewellianum superbum, &c. Some very fine Cypripedium Lawrenceanum, together with good forms of Cattleya Mossiæ and Miltonia vexillaria must also be mentioned.

Messrs. Hugh Low & Co., Enfield, also staged a superb group, which gained the award of a Silver Cup. Among the more noteworthy things it contained were Cattleya Mendelii Oakes Ames, a handsome form with a crimson feathered blotch at the tip of the petals (First-class Certificate), C. M. Mrs. E. V. Low, a charming light form (Award of Merit), some good C. Mossiæ, including the beautiful varieties Wageneri and Reineckeana, some fine Lælia purpurata, L. × Latona, a very handsome Lælio-cattleya × Schilleriana, Cypripedium × Gertrude Hollington, a series of good forms of Odontoglossum crispum, Brassia verrucosa, Oncidium phymatochilum, O. monachicum, Bulbophyllum claptonense, which is a near ally of B. Lobbii, Dendrobium Dalhousieanum salmoneum, in which the usual maroon blotches were replaced by bright salmon-pink (First-class Certificate), the very rare and pretty D. radians, and others too numerous to mention.

Messrs. F. Sander & Co., St. Albans, also received a Silver Cup for a remarkably fine group, containing a very fine clump of Cypripedium Mastersianum with over thirty flowers, C. × macrochilum giganteum with very long tails, C. bellatulum album, C. callosum Sanderæ, C. Sanderianum, many good Odontoglossum crispum, a very pretty O. × Adrianæ, O. luteopurpureum, Sobralia macrantha Kienastiana, Cœlogyne Dayana, a fine plant with many racemes, Masdevallia Veitchiana, good examples of Lælia purpurata and tenebrosa, Zygopetalum × Perrenoudi with two fine racemes, fine examples of Oncidium sarcodes and O. ampliatum, Cattleya Mossiæ Reineckeana, C. M. Wageneri, and other good forms, C. Skinneri alba, Maxillaria Sanderiana, and many other showy Orchids.

Messrs. W. L. Lewis & Co., Southgate, staged a large and very effective group, to which a Silver-gilt Banksian Medal was given. It contained some fine Lælia purpurata, the rare Warscewiczella discolor with four flowers, Cypripedium × Evenor Southgate var., C. Mastersianum, Phalænopsis rosea, the rare Epidendrum hastatum with seven flowers, Cattleya Schilleriana, C. intermedia, some good C. Mossiæ, C. Mendelii, C. Skinneri, Ada aurantiaca, the handsome Oncidium spilopterum, O. varicosum, O. concolor, O. hastatum, and other good things.

Messrs. B. S. Williams & Son, Upper Holloway, also contributed a fine group and received a Silver-gilt Banksian Medal "for Orchids and Floral Decorations," in which latter Orchids were very effectively utilised. The group contained some fine Lælia purpurata, L. × Latona, some good Cattleya Mossiæ, Mendelii, and Skinneri, Oncidium concolor, a very fine clump with over a dozen racemes, O. Marshallianum, many good Odontoglossum crispum, O. cirrhosum, and other fine Odontoglossums, Vanda tricolor and V. sauvis, Calanthe Williamsii, Trichopilia crispa, many good Miltonia vexillaria, Aërides Houlletianum, Pescatorea Lehmanni, Anguloa Clowesii, Masdevallia ignea, Thunia Bensonæ, &c.

M. Ch. Vuylsteke, Loochristi, Ghent, sent a fine hybrid Odontoglossum called O. × crispo-Harryanum (crispum ♀ × Harryanum ♂), a very beautiful thing, most like O. Harryanum in shape and in the general details of the lip, but the sepals and petals light yellow and less heavily marked with red-brown at the base. The plant bore a raceme of four flowers, and received a First-class Certificate.

Messrs. James Backhouse & Sons, York, included some interesting Orchids in a group of miscellaneous plants, as Dendrobium infundibulum, Cypripediums macranthum, Calceolus, and Rothschildianum, Ophrys arachnites, Orchis sambucina, fusca and longicornu, Odontoglossum crispum and polyxanthum, Lælia purpurata, a good L. Boothiana, and some excellent Miltonia vexillaria, to one of which, called variety Empress Victoria Augusta, a First-class Certificate was given.

Messrs. Barr & Son, King Street, Covent Garden, exhibited in a collection of hardy plants interesting examples of Orchis latifolia, papilionacea, maculata, italica, Ophrys tenthredinifera, and Cypripediums pubescens, Calceolus, montanum, and acaule, and Aceras anthropophora.

Mr. T. S. Ware, Tottenham, had also interesting examples of Orchis militaris, and Cypripediums Calceolus, pubescens, and montanum in a group of hardy plants.

The Jadoo Company, Limited, Exeter, exhibited a very strong Dendrobium Wardianum grown in their Jadoo Fibre.

Miss E. D. Emett, 239, Ladbrooke Grove, W., exhibited remarkably

life-like models of Spathoglottis gracilis, Diacrium bicornutum, including pseudobulb and leaves, Cypripedium insigne, and the apex of a branch of Sobralia macrantha.

Lastly may be mentioned that Orchids were very effectively utilised in the Floral and Dinner table decorations of Mr. L. H. Calcott, of Stoke Newington, Miss J. Dalton, of Ludgate Hill, Messrs. Jones & Sons, of Shrewsbury, Messrs. Perkins & Sons, of Coventry, and Mr. M. Stevens, of Belgravia.

ORCHID PORTRAITS.

CATTLEYA × FERNAND DENIS.—*Gard. Mag.*, May 28, pp. 339, 340, with fig.

CYPRIPEDIUM × GERTRUDE HOLLINGTON, SOUTHGATE VAR.—*Gard. World.*, May 28, p. 616, with fig.

CYPRIPEDIUM × OLENUS, BURFORD VARIETY.—April 28, p. 371, fig. 71.

EULOPHIELLA PEETERSIANA.—*Garden*, May 7, p. 379, with fig.

LÆLIO-CATTLEYA × THORNTONI.—*Journ. of Hort.*, May 5, pp. 390, 391, fig. 74; *Gard. Mag.*, May 7, pp. 297, 298, with fig.

ODONTOGLOSSUM PESCATOREI DUCHESS OF WESTMINSTER.—*Journ. Hort.*, May 12, pp. 412, 413, fig. 78.

ODONTOGLOSSUM × WILCKEANUM, PITT'S VARIETY.—*Gard. Chron.*, May 7, p. 274, fig. 104.

PHALÆNOPSIS × SCHRŒDERÆ.—*Gard. Chron.*, April 30, p. 259, fig. 99.

SPATHOGLOTTIS × AUREO-VIEILLARDII.—*Gard. Mag.*, May 14, p. 308, with fig.; *Gard. Chron.*, May 21, p. 309, fig. 115; *Journ. of Hort.*, May 26, p. 439, fig. 82.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

J. G., Southampton.—Dendrobium Boxallii, which, however, is probably a form of D. gratiosissimum.

C. STOLDT.—Both are forms of Cattleya intermedia, the one with spotted sepals and petals being near the variety punctatissima. The species varies from white to pink.

W. J. R., Maghull.—Lælio-cattleya × Schilleriana, a natural hybrid between L. purpurata and C. intermedia.

Ch. V., Loochristi.—Oncidium tetracopis, Rchb. f.

ERRATA.

Page 5.—Lælio-cattleya × weedoniensis must be placed as a variety of L. c. × Sallieri, a fact then overlooked.

Page 41.—For Lælio-cattleya × Locusta read L.-c. × leucasta.

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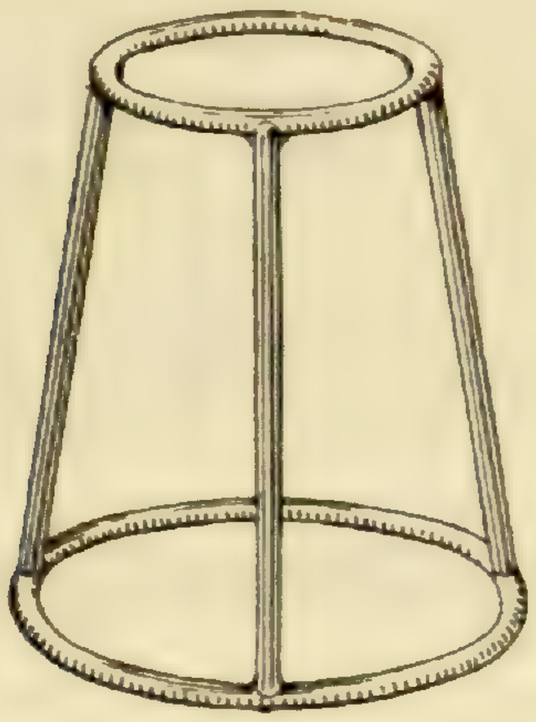

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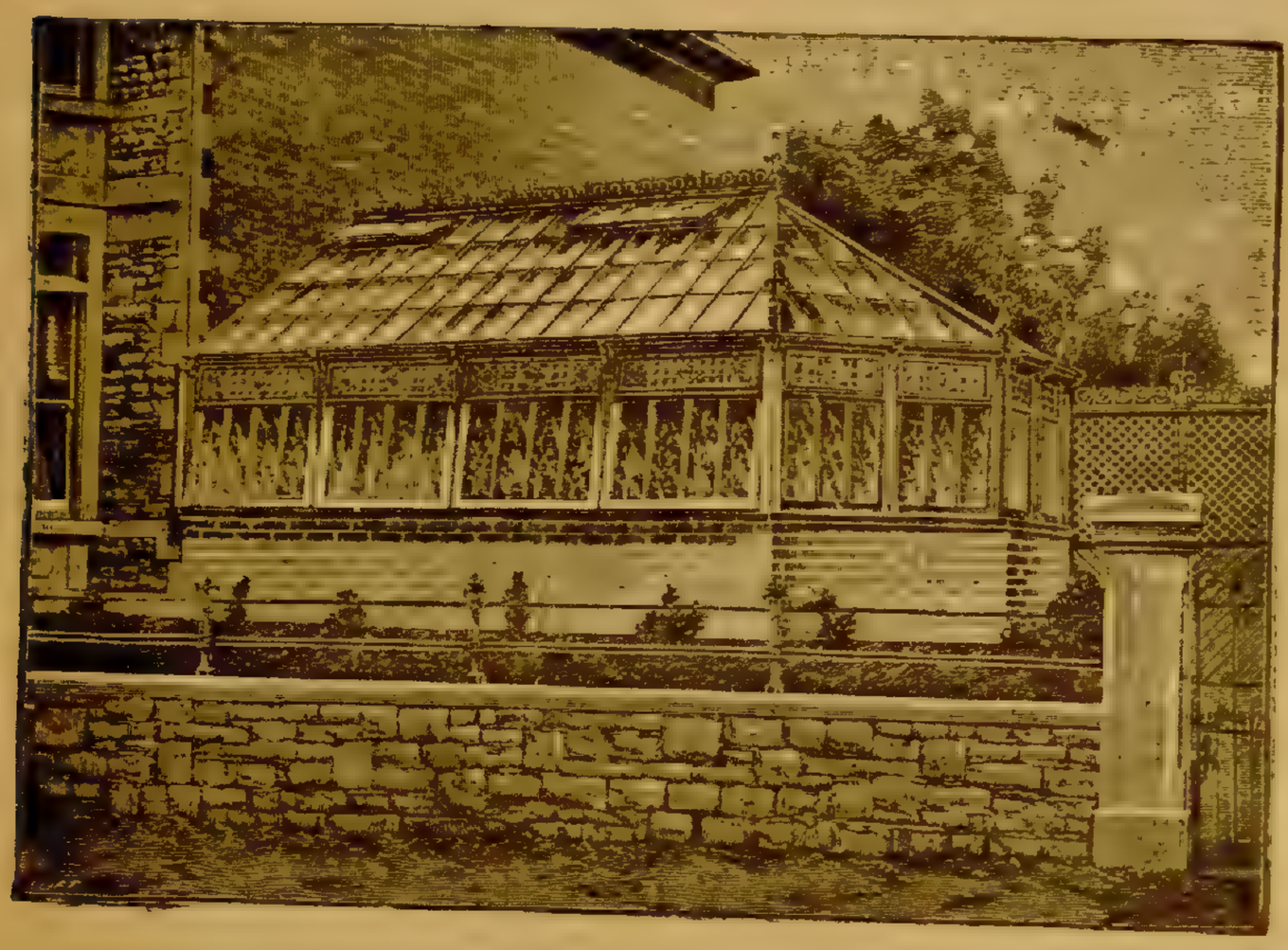

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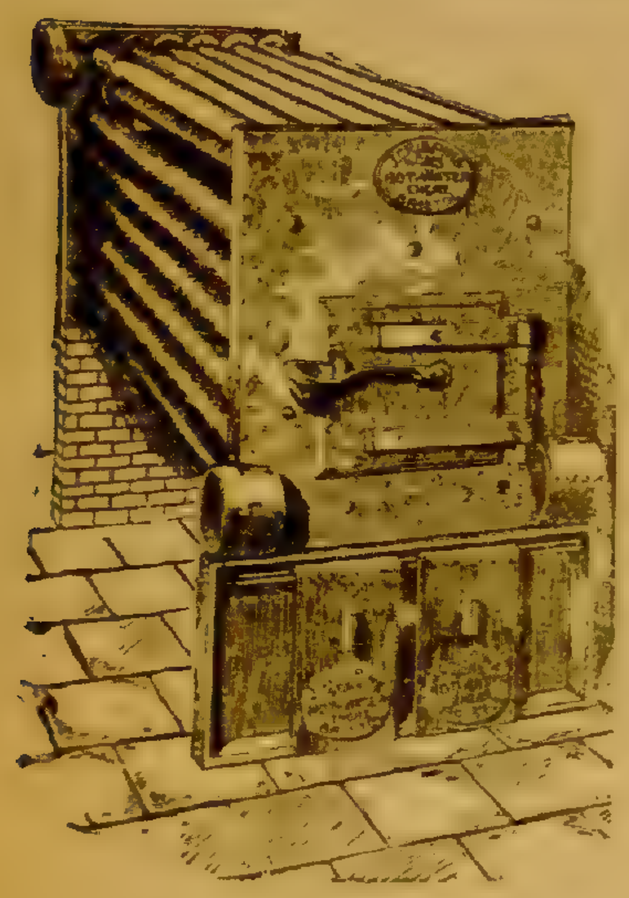

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THE

ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. VI.] *JULY*, 1898. [No. 67.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, during July, on the 12th and 26th respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The July meetings of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on the 14th and 28th. The Orchid Committee meets at noon, and the exhibits are open to inspection at 1 p.m.

A flower of a fine form of Odontoglossum × Wilckeanum has been sent from the collection of W. G. Groves, Esq., Holehird, Windermere. It came out of an importation of O. crispum. The spike bore twelve very large and brightly coloured flowers, the sepals and petals having the elongated shape of O. luteopurpureum rather than that of the other parent.

The *Journal of the Kew Guild* states that the Orchid houses at Kew (Nos. 13 and 14) have long been inadequate for the needs of the large collection of these plants now grown there. They are therefore being replaced by four smaller houses, after the style most approved by the leading Orchid-growers. An addition is also being made to the Orchid pits.

Mr. G. W. Cummins, late gardener to A. H. Smee, Esq., The Grange, Wallington, has been appointed gardener to W. H. Lumsden, Esq., Balmedie, Aberdeenshire. We believe that, as in his last situation, Mr. Cummins will have a good collection of Orchids under his charge.

Cattleya Mendelii grandiflora is an exceptionally large form, with white

sepals and petals and the front lobe of the lip very richly coloured. A beautiful flower having this character is sent from the collection of W. E. Boutcher, Esq., Grately, near Andover. It came out of one of Messrs. Cowan's importations in 1894 or 1895, and Mr. Boutcher states that for three successive years it has produced a new growth at the time that the flowers are showing in the sheath.

An exceptionally dark Oncidium crispum grandiflorum has been sent by Messrs. Linden, L'Horticulture Internationale, Brussels, the only trace of yellow being a small blotch close to the claw of the lip, and a few similar markings at the extreme base of the other segments. The whole flower is of a deep bronzy tinge.

A very good form of Lælio-cattleya × Schilleriana is sent from the collection of R. G. Thwaites, Esq., of Streatham. The flower is pure white, except the front lobe of the lip, and a line down the centre of the disc, which are of a brilliant rosy-crimson, shading off into a white blotch at the apex.

A most beautiful albino of Odontoglossum crispum comes from Messrs. Linden, L'Horticulture Internationale, Brussels, excellent in shape and substance, and of the purest white, which is set off by a bright yellow disc without the slightest speck of brown. It is one of the best examples of O. c. virginale we have met with.

A flower of the beautitul Dendrobium pulchellum (Dalhousieanum) salmoneum, which obtained a First-class Certificate at the Temple Show, has been sent by Messrs. Hugh Low & Co., of Enfield. It differs from the type in having the pair of maroon eye-like blotches on the lip, replaced by a bright shade of salmon pink, which gives to the plant a very distinct appearance.

A plant of Eulophiella Peetersiana, belonging to M. Peeters of Brussels, was offered for sale by Messrs. Protheroe and Morris, on May 27th, last, and, we understand, fetched £39.

A flower of Cattleya Mossiæ, sent by Messrs. Hurst and Son, has the lip very prettily and irregularly streaked and veined with crimson-purple. A trace of the same character is seen in the sepals and petals. C. M. Hardyana is a variety in which this peculiarity is much more strongly developed.

Cattleya Mossiæ McMorlandii is a handsome variety in which all the crimson pencilling has vanished from the front lobe of the lip, leaving only the yellow disc and the markings in the throat. A figure appears in

Warner's *Select Orchidaceous Plants* (iii, t. 16). It has now appeared in the collection of W. S. M'Millan, Esq., Maghull, near Liverpool, from whom we have received a flower, together with a very brightly coloured form of the species and a good C. Mendelii.

A fine raceme bearing thirteen flowers of a most interesting plant of Odontoglossum crispum is sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens. It is the first O. crispum ever purchased by Mr. Thompson, and has been in the collection twenty-eight years last January. It is a good, typical, nearly unspotted form, with a tinge of rose in the sepals. Mr. Stevens remarks that "the plant, though not large, looks like going on for another twenty-eight years, with the same care," and as such plants are continually renewing themselves there seems, apart from accidents, no particular limit to their existence, provided only their requirements are attended to. It is now pretty obvious that if O. crispum deteriorates under cultivation, there is something wrong in the treatment.

We learn that the firm of Messrs. W. L. Lewis & Co., of Southgate, has been dissolved by mutual consent, and that the business will in future be carried on by Messrs. Stanley Mobbs and Ashton, at the same address.

OBITUARY.

We regret to hear of the death of Mr. Henry Mason, of Bankfield, Bingley, which took place in London on June 11th last. His collection of Odontoglossums was, we believe, one of the choicest in the North of England, and contained many valuable and unique forms. The late Mr. Mason purchased only plants in flower, and paid some high prices to several of the trade firms for choice varieties.

MASDEVALLIA ANGULATA.

Another interesting species of Masdevallia has been introduced to cultivation, namely M. angulata, Rchb. f., which was described in 1878 from dried specimens (*Otia Bot. Hamb.*, i. p. 15). It was exhibited by Mr. J. O'Brien at the Royal Horticultural Society's meeting on June 14th last, and received a Botanical Certificate. It is a native of Ecuador, and was originally discovered by Mr. F. C. Lehmann, from whom the living plants have since been received. It is allied to M. Mooreana, and is very similar in colour, but it is markedly different in its relatively longer leaves and shorter scapes, as well as the shorter perianth, the free part of the sepals, including the tails, being much less attenuate.

R. A. R.

DIES ORCHIDIANÆ.

"Is old Argus taking a holiday, or has he not returned from Ghent, supposing he ever got there? For two months we have seen nothing of him, and we begin to wonder what can be the matter." I hasten to assure my amiable correspondent that it's nothing serious—just a hint from the Editor that reports of the big shows will take up all the available space, so my notes have to keep.

First, then, I would allude to the flowering of the handsome Eulophiella Peetersiana by Sir Trevor Lawrence, which, somehow, I think will be the event of the year, just as the flowering of the giant Grammatophyllum speciosum was that of last year. It is a glorious thing, but I hope not too big for general cultivation. The flowers are much larger than those of E. Elisabethæ, and of a most brilliant shade of purple, and, if only it proves to be as easily grown and as floriferous, we must find room for it. And how quietly it stole into cultivation. But this is not to be wondered at when the experience of the collector of the sister species is borne in mind. The present one has surely not been discovered by the dreaded "Protocryptoferox" and the truculent "brother-in-law," or they would scarcely have wasted their time in guarding the few little plants left of E. Elisabethæ, when a species so much finer needed their protection. To return, however, I must congratulate Sir Trevor Lawrence upon first flowering this fine species. It is a curious coincidence that E. Elisabethæ first appeared in public as a single plant at the Ghent Quinquennial Exhibition in 1893, when it was the most remarkable new plant in the Show, and the present one, I believe, would have been in excellent condition for that of the present year had it not been previously cut for the Royal Horticultural Society's Meeting.

This brings me to the Ghent Show, where the Orchids, in spite of two excellent groups which it would have been hard to beat anywhere, showed a decided falling off as compared with the preceding one. What struck me as remarkable was the number of unfilled classes—no less than fifty-one out of a total of seventy-three—but I believe that the unusual lateness of the season was responsible for some of this. The middle of April is rather early in such a season, and I was told that certain things were so backward that they could not be got out in time. The two prize groups of M. Peeters and M. Vincke-Dujardin, however, were superb both in quality and culture, and several others were very good, though, in one or two cases, the first prize was withheld. And, singularly enough, the premier group of Odontoglossums came from

England, from Mr. Thompson's well-known collection—an excellent lot, both for quality and culture.

But whatever the cause, the display of Orchids, as a whole, was a long way behind that seen at the Temple Show five weeks later. This period, of course, makes a lot of difference, but what one has most to remember is that the conditions under which the two shows are held are altogether different. At the Temple Show there is no competition proper, except that each exhibitor tries to make as good a display as possible. And very good it invariably is—the last being, if possible, better than ever—though, as a general rule, there is too much sameness in the groups, and one experiences quite a feeling of relief in discovering something different, as in the case of the numerous botanical gems staged by Sir Trevor Lawrence. If a schedule of prizes equal to that at Ghent were offered at the Temple Show, there would be something to see, though the space at disposal would be wholly inadequate. The Ghent people have the pull of us in this respect.

It must also be remembered that on this occasion the great Whitsuntide Show at Manchester overlapped the dates of the Temple Show, which probably kept some of the northern growers away. At all events, the Manchester Show was quite up to its usual standard, and the competitive classes afford an opportunity for a certain amount of classification which is wanting at the Temple Show, and which certainly imparts additional variety and interest. At Manchester, too, they have the additional advantage of a suitable building. Why should London wait?

And now I must allude to a very disagreeable incident which occurred at the Temple Show, namely, the loss of M. Jules Hye's Orchids, under circumstances recorded at page 163. From the report of the show at page 188 they appear to have been seven in number, and their aggregate value is estimated at about £300. Over a month has now elapsed, but, up to the moment of writing, I have not heard of their recovery, and therefore the suggestion that they may have been removed by some other exhibitor in mistake may be finally dismissed, and one is forced to the conclusion that they were deliberately stolen, which is not by any means a pleasant reflection. A reward was at once offered for their recovery, and now the question arises, what other steps are being taken to trace the plants?

Such an incident naturally called forth various comments in the press as to who is responsible and how its recurrence is to be prevented in future. It naturally came as a disagreeable surprise to everybody, and especially to

those responsible for the arrangements, who, however, appear to have taken every reasonable precaution for the safety of the exhibits. It would appear from the report that as long as three hours after the closing of the show the plants were seen safely in the tent, both by the society's superintendent and by M. Hye's assistant, who then left them for another hour, but on returning found them missing. The public, be it remembered, had along ago gone home, and the people remaining would be chiefly composed of exhibitors, with their assistants, whose collections were too large to be removed previously. What steps were taken to exclude unauthorised persons at this hour I do not know, but it seems probable that whoever took those plants knew what they were doing, and I suggest that Sherlock Holmes be employed in the case. It certainly ought not to be allowed to rest where it is at present.

ARGUS.

THE HYBRIDIST.

EPIDENDRUM × RADICANTI-STAMFORDIANUM.

A VERY pretty hybrid, derived from Epidendrum Stamfordianum ♀ and E. radicans ♂, was exhibited by Messrs. James Veitch and Sons at the meeting of the Royal Horticultural Society held on June 14th, of which flowers have been kindly sent. In habit and the terminal inflorescence it most resembles a dwarfed edition of the pollen parent, while the shape of the flowers is almost that of E. Stamfordianum, with the colour changed to light orange-red, and a yellow disc to the lip. The plant is at present very small, but will probably develop into a good thing when it becomes strong. We believe it is the first hybrid from E. Stamfordianum.

EPICATTLEYA × RADIATO-BOWRINGIANA.

Another very distinct and striking hybrid was also exhibited by Messrs. Veitch on the same date, under the above name. It was obtained from Cattleya Bowringiana ♀ and Epidendrum radiatum ♂, and is fairly intermediate between the parents in character. In habit it is most like the Epidendrum parent, having fusiform pseudobulbs and somewhat elongate leaves, but the flowers are greatly modified in shape, and very distinct in colour. The inflorescence at present bears three flowers, considerably exceeding those of the Epidendrum in size, and the lip is much more concave, though the side lobes are not enrolled, as in the Cattleya parent. The colour of the flowers is dull purple of quite a novel shade, and the lip is similar, but marked with radiating veins of a darker tint, which appear the most distinct in the paler throat. Of course it has not yet reached its maximum development, and it will probably improve considerably when the plant becomes stronger.

LUEDDEMANNIA SANDERIANA.

LAST year an Orchid, introduced by Messrs F. Sander & Co., it was said from the neighbourhood of Medellin, was described by Dr. Kränzlin under the above name (*Gard. Chron.*, 1897, xxii., p. 138) as an ally of L. Lehmanni, but differing in having cream coloured sepals and petals, and a white lip spotted with purple and bearing a very dark purple callus. A plant of it has now flowered at Kew, and was immediately seen to belong to another genus, being in fact, the old Lacæna bicolor described by Dr. Lindley over half-a-century ago (*Bot. Reg.*, 1843, Misc. p. 68), when it flowered in the Horticultural Society's garden. A figure subsequently appeared (*l.c.*, 1844, t. 50), when the plant was said to have been sent from Guatemala by Hartweg, who found it in the mountains of Saloma in the province of Vera Paz, also near the village of Sunil, near Quezaltenango, growing on rocks at an elevation of about 7000 feet above the sea. Shortly afterwards Richard and Galeotti described it under the name of Peristeria longiscapa (*Ann. Sc. Nat.*, sér. 3, iii., p. 25), from specimens collected by the latter in Mexico. In 1889 a very fine plant, which had been imported from Mexico as a Stanhopea, flowered in the collection of E. H. Watts, Esq., of Chiswick, and was described by Mr. J. Fraser as Acineta Wrightii (*Gard. World*, June 22, 1889, p. 673), in honour of Mr. Watts' gardener. The spike was over 2½ feet long and bore 46 flowers. And now it has been wrongly referred to Lueddemannia. In fact the unfortunate plant seems to have received a new name each time it has appeared in cultivation. It belongs to a quite distinct genus, of which only one other species is known, namely, L. spectabilis, Rchb. f., a native of Mexico, of which a good figure appears at t. 6516 of the *Botanical Magazine*. L. bicolor var. glabrata, Lem. (*Ill. Hort.*, i., *Misc.*, p. 56, t. 33) belongs to the latter. These plants should be grown in hanging baskets like Stanhopeas and Acinetas, and require similar treatment.

R. A. ROLFE.

CATTLEYA MENDELII JANUS.

A VERY curious form of Cattleya Mendelii is sent by Messrs. B. Hurst and Son, of Hinckley, which flowered out of a batch imported last year. Two racemes are sent, and in each case the terminal flower consists of only two opposite sepals and petals, and a long slender column. In one case the column is straight, flattened above, and bears two perfect anthers, alternating with the petals; the other having but one, though resembling the first in having lost all trace of the column wings and stigma. The two

lower flowers are equally abnormal, but in a totally different way. One consists of a single sepal and a second organ which can only be described as half a lip and half a petal joined together longitudinally, for the dividing line between the two halves is as sharp as if cut by a knife, one showing every detail of the lip in shape, the infolding of the side lobes, and the colour, including all the markings of the disc, while the other half is simply white and flat, like a petal. Even the column is Janus-like in character, the lip side having the characteristic wing and angle, together with an imperfect anther and stigma, while on the petal side all these parts are absent. The lower flower of the other raceme has a quite different half-and-half organ, in this case one side belonging to the dorsal sepal and the other to a petal, the different texture and shape being equally well defined. The other petal is united to the side of the column, and thus shorter than usual, and crumpled up. The column and lateral sepals are normal and the lip nearly so. Several other plants of C. Mendelii in this sportive condition are known (see vol. iii, p. 236, also p. 224; ii, p. 251; and iv. p. 128), but what is the cause we are unable to say. It is clearly some constitutional peculiarity, and, curiously enough, the flowers seem to be abnormal in different ways and at different times, and some of them are really very striking, as in the case of the one sent by Messrs. Hurst, which has large and brilliantly coloured flowers, and should be taken care of. The peculiarity recurs so frequently as to deserve the varietal name above proposed.

BOTANICAL ORCHIDS AT KEW.

Amongst the most attractive botanical Orchids now in flower at Kew, are several very interesting plants which are certainly worthy of notice.

In the Warm department two plants form a very pleasing sight; the remarkable Bulbophyllum barbigerum, whose curiously articulated lip is constantly in motion, and the handsome Grammangis Ellisii, a native of Madagascar, which bears a raceme of not less than twenty-three pretty flowers. The latter species is a warmth loving kind, and grows splendidly in baskets hanging from the roof.

Another very interesting plant is the new Mystacidium angustum (Rolfe), a very free growing and flowering species from West Africa. Angræcum Scottianum has terete leaves and graceful white flowers. Ornithocephalus grandiflorus is very free flowering, and has remained in bloom for a couple of months. Another species, native of West tropical Africa, is Polystachya Adansoniæ, with small greenish white and purple flowers. Hartwegia purpurea has purple flowers and leaves prettily variegated with green and brown. It seems to be very rare in cultivation.

In the Cool house are several interesting things, and amongst them are some real gems. Ornithocephalus multiflorus (Rolfe) is a new species, a native of Brazil, bearing half-a-dozen graceful racemes covered with small pure white flowers. Its compact habit and charming racemes and blooms suggest that it would be worth while to introduce more of it. Colax Puydtii is another distinct species now in flower, also the handsome Chondrorhyncha Chestertoni, which has bloomed before this season.

Several other varieties are sending forth their spikes, which will succeed those above mentioned. Amongst them are the curious Bulbophyllum odoratissimum, Cleisostoma latifolium, the attractive Cycnoches Egertonianum, and the showy Cynorchis grandiflora with its brightly coloured flowers, Habenaria pectinata, and Xylobium scabrilingue.

Other interesting species showing for flower are Cirrhæa viridi-purpurea, Liparis elata and Prainii, Microstylis commelynæfolia, Pleurothallis maculata and several Polystachyas, as P. leonensis, luteola, and rhodoptera, and also Satyrium coriifolium and cucullatum. Many others will soon be in season, some of them very rarely seen in collections, the more interesting of which will serve as materials for future notes.

ODONTO.

DENDROBIUM BULLENIANUM.

DENDROBIUM Bullenianum is an interesting Philippine species, with heads of orange-coloured flowers striped with light-red on all the segments, which has very rarely been seen in cultivation since its original introduction, hence its re-appearance in an importation of D. Dearei by Messrs. F. Rancer & Co., St. Albans, is interesting. It was originally introduced by Messrs. Hugh Low & Co., and was described in 1862 by Reichenbach (*Bot. Zeit.*, xx., p. 214). In 1874 a plant, which had been received from the Philippines, flowered in the collection of W. E. Brymer, Esq., and was described by Reichenbach under the name of D. erythroxanthum (*Gard. Chron.*, 1874, ii., p. 162), but I do see how it can be distinguished from the preceding. Both were described as having heads of orange flowers lined with red, and both were compared with D. secundum, while the differences pointed out seem to be too slight to be of importance. I have, however, only seen dried specimens of the latter. D. Bullenianum belongs to the section Pedilonum, and its flowers, which measure ¾-inch long, and are very distinct in colour, are borne in lateral heads of about fifteen each.

R. A. ROLFE.

NOTES ON SOME CURIOSITIES OF ORCHID BREEDING.

THE last number of the *Journal of the Royal Horticultural Society* contains a most interesting paper bearing the above title, by Mr. C. C. Hurst. A brief summary was given at page 326 of our last volume, and we now give the following additional particulars for the benefit of those who may not be able to read the paper in the original.

The special object of the paper was described by Mr. Hurst as being to bring together in a concise form some of the curiosities and apparent anomalies which have come to light during the rapid progress which has been made during recent years in Orchid hybridisation, and to view them in the light of recent researches. Commencing with normal forms, the author remarks that primary hybrids are generally intermediate between their parents, as is evident by the researches of Macfarlane on Cypripedium × Leeanum, Masdevallia × Chelsoni, and others, even down to their minute structure. He then alludes to the curiously long interval which elapses between pollination and the fertilisation of the ovules, ranging from eight or nine up to 120 days in various Orchids, though the ultimate process seems to be much the same as in other flowering plants. This is essentially the union of the contents of the pollen cell of the father with the egg cell of the mother, which latter then develops into the living embryo, and later germinates into the future plant. When the contents of these two uniting cells are derived from different species, the resulting embryo is a hybrid combining the characters of the two parent species, which explains the intermediate character.

Among the curiosities enumerated are several alleged crosses, in which the mother species is alone reproduced, and the question arises, are they true hybrids? Probably not, for they must have originated by self-fertilisation, or by parthenogenesis—without the aid of pollen at all, of which latter phenomenon a curious instance was discovered by Dr. Treub, the embryos developing in the ovary of Liparis latifolia as the result of the presence of some insect larva, which seemed to feed on the juices secreted within the ovarian cavity without injuring the ovules. Some of the examples cited are apparently inexplicable, and it is suggested that the experiments should be repeated, and the results carefully recorded.

The question of sterility is discussed, examples of species which apparently refuse to intercross being given, but occasional successes show that negative results cannot be accepted as conclusive, some one ultimately succeeding where others have repeatedly failed. Then comes some evidence on the question of the influence of foreign pollen on the period of ripening of the seeds, the balance of evidence being that some such influence is exerted, though to what extent is not clear.

The list of generic crosses is very interesting, showing a remarkable series of successful combinations, which, with other "partial successes," are illustrated by a diagram. The question of prepotency of one parent is specially considered in this connection, as in the case of Epidendrum radicans crossed with Sophronitis, Cattleya, and Lælia, all of which most resemble the reed-like Epidendrum in habit, and of *Zygopetalum* with Odontoglossum, Oncidum and Lycaste, in which the former is reproduced almost unmodified, and the conclusion is reached that it is a case of partial reversion towards the more ancestral of the two parent genera. The remark, however, that "*Zygopetalum* is the common ancestor of Odontoglossum, Oncidium and Lycaste," will probably have to be modified when the behaviour of the reversed crosses is known.

An interesting summary is given of cases where seed pods were produced as the result of pollination by various genera without fertilisation taking place, and even by the mechanical irritation of the stigma without pollen, and the point is emphasised that the mere swelling of the ovary and production of a capsule as the result of pollination is no proof that fertilisation proper has taken place, without which latter good seeds cannot be produced.

Lastly, the fertility and sterility of hybrids is considered, and it is shown that, although many hybrid Orchids are almost or quite as fertile as their parents, there is, in the aggregate, a diminished amount of fertility as compared with crosses between pure species. This result is obtained from the examination of the results of numerous experiments made with the genus Paphiopedium by Mr. Reginald Young, of Liverpool. Out of 577 crosses between 30 distinct species and 53 distinct hybrids, Mr. Young succeeded during five years in getting 452 pods of good seed, which represents 78.3 per cent. fertile. When analysed the result comes out as follows :—

188 sp.	×	sp.	yielded	179	pods,	or	95.2	per cent.
143 hyb.	×	sp.	,,	128	,,	,,	89.5	,, ,,
118 sp.	×	hyb.	,,	67	,,	,,	56.7	,, ,,
124 hyb.	×	hyb.	,,	74	,,	,,	59·7	,, ,,

A curious fact comes out in this analysis, namely, that in crossing species and hybrids together, success is most certain if the hybrid is used as the seed parent, the chances being as much as 32.8 per cent. in its favour, which, as Mr. Hurst remarks, represents a loss of power in the male element of the hybrid, though why this should be so is not easy to explain.

Many of the facts summarised in this most interesting paper have already appeared in the *Review* and other papers, their source being acknowledged by Mr. Hurst, who, in conclusion remarks: "All these experiments and observations prove to us how important it is for Orchid

breeders to keep accurate and precise records of the crosses they make from time to time, the details of which may prove to be of inestimable value to science."

The paper is illustrated with several woodcuts of the more remarkable hybrids, and will doubtles be studied in detail by all who are interested in the question of hybridisation.

CATTLEYA × PICTURATA.

A very interesting Cattleya has just flowered in the collection of Eustace F. Clark, Esq., of Teignmouth. It was purchased last autumn from the Robinow collection as C. intermedia, but on flowering proves much more like the old C. guttata in shape, and is probably a natural hybrid between the two. Thus it should agree with C. × scita (Rchb. f. in *Gard. Chron.*, 1885, xxiv., p. 489), which appeared with Mr. B. S. Williams in an importation of C. intermedia, and was described as probably a natural hybrid between it and C. guttata. It had lightest ochre-coloured sepals and petals, with a few irregular light purple blotches and some similar shading near the margin. The front lobe of the lip and tips of the side lobes were purple, and Reichenbach added that there was hardly a doubt as to its origin. There is a still older C. × picturata (Rchb. f., *l.c.*, 1877, viii., p. 584) raised by Mr. Dominy in Messrs. Veitch's establishment, whose acknowledged parents are C. guttata and C. intermedia. It is described as most like the former, the blooms pallid yellow, petals white at the base, and lip with the front lobe and angles of the side lobes brownish-purple. Unfortunately the type specimens are inaccessible, but in the absence of evidence to the contrary we may assume Reichenbach's views to be correct, and that Mr. Clark's plant is a form of the same. The flower is slightly larger than the old C. guttata, and the petals are narrower, as in C. intermedia (they measure 20 lines long by 5 broad), and the lip as nearly intermediate as possible. The sepals and petals are highly suffused with pink on a yellowish white ground, and each bears a number of purple spots and splashes, mostly near the apex. The front lobe of the lip is rose-purple, which colour extends down the centre of the disc, and is slightly represented on the tips of the side lobes. It is smaller than C. × intricata, as would naturally be expected. It would be interesting if some of our hybridists who possess the old C. guttata would repeat the cross, for the early records are rather doubtful, and the hybrids themselves appear to have been lost. Its re-appearance as a wild plant is at all events very interesting.

R. A. Rolfe.

ORCHID CULTURE IN BELGIUM.

"NOTES of a British Orchidist in Belgium" would be a more appropriate heading for the following article, which consists of a series of notes taken during a visit to Belgium on the occasion of the recent Quinquennial Exhibition at Ghent. With this explanation, however, the title will serve its purpose.

An invitation to serve on the Jury of the International Horticultural Exhibition at Ghent was an honour in itself, and, further, afforded an opportunity of visiting some of the principal Orchid collections in Belgium which was not to be lost sight of, and, accordingly, a few days before the opening of the Exhibition the writer found himself en route to Ostend and the quaint old town which, every five years, forms the Mecca to which so many horticulturists from all parts of Europe make their way.

As to the Show itself, we have nothing to add to the report already given at page 137, but we may remark, in passing, that the Royal Agricultural and Botanical Society of Ghent are fortunate in possessing such a suitable building as the Casino in which to hold their exhibitions. The arrangements generally were very well carried out. The Jury met on the Friday morning, and, after an address of welcome from the President, proceeded to their labours. After the judging was completed, the jurors were invited to luncheon, after which, speeches were made by the President, Comte de Kerchove, the Minister of Agriculture, the Burgomaster of Ghent and others, and medals were presented on behalf of the Veitch Memorial Committee by Dr. Masters to Comte de Kerchove and Mr. Edouard André.

On Saturday morning, the members of the Jury and representatives of various horticultural societies were invited to meet the King at eight o'clock, "evening dress" being deemed appropriate to the occasion, and, after a good look round, His Majesty declared the Show open. A visit to the winter-garden of the Dowager Countess de Kerchove took place in the afternoon, and in the evening they attended a *raout* given by the *Chambre Syndicale des horticulteurs belges.*

On Sunday the jurors, by special invitation, attended a garden party at Laeken given by the King and Queen to the diplomatic body and nobility, which afforded an opportunity to inspect the fine winter-garden and part of the collections. On returning from Laeken, the jury proceeded to the splendid saloon of the Theatre and partook of a sumptuous banquet given by the Society, at which several State functionaries were present, at which, after the usual toasts and speeches, jurors of various nationalities expressed their feelings of gratitude for the hospitality and kindness of our Belgian friends. The festivities being now completed, the jurors were

free to follow their own inclinations, which consisted chiefly in visiting various horticultural establishments, in describing which we shall confine ourselves strictly to Orchids.

The first establishment visited was that of M. A. Van Imschoot, of Mont St. Amand, which is remarkable for its representative character and the large number of botanical rarities it contains. Numerous interesting things were in flower, but it must be remembered that the pick of the collection were away at the Show—a group of ninety different kinds—consequently our notes were less numerous than they would otherwise have been. Some of those exhibited, however, were here in duplicate, and we were much interested in looking over a number of those not in flower, including a few uniques and many which are found in very few other collections. M. Van Imschoot's houses are also well adapted to the purpose, and we saw numerous examples of successful culture. A plant of Vanilla Pompona, usually cultivated under its later name of V. lutescens, bearing some of its very fleshy triquetrous fruits, was a very interesting sight. Epidendrum Pseudepidendrum is very rarely met with, but its scarlet lip forms a very striking contrast with the rest of the flower, which is green. Elleanthus capitatus was another rarity in flower, and near it were several species of Sobralia. A fine specimen of Grammatophyllum speciosum might also be seen, but this, of course, not in flower. Showy Orchids included Miltonia vexillaria, Ada aurantiaca, many different species of Odontoglossum, various Masdevallias, Vandas, Dendrobiums, Cattleyas, and examples of various other genera which we have not space to enumerate. Altogether, we retain very pleasant recollections of the time spent with M. Van Imschoot, who takes the greatest interest in his collection, and has, moreover, a very useful library relating to his favourites.

The collection of M. Jules Hye-Leysen is situated in the Coupure, not far from the Exhibition, though he was not showing there, and consequently we found a fine display of flowers in his Orchid houses. The Odontoglossums, to which two houses were devoted, were particularly good, both as to quality and culture, and among the more striking things noted we may mention a magnificent form of O. triumphans with a spike of eleven flowers, a good O. t. aureum, a brilliant O. Cervantesii roseum, some excellent examples of O. × Wilckeanum, one of them being very clear and bright in its colours, O. crispum Wrigleyanum, O. c. Hyeanum, the richly-coloured O. c. augustum (in bud), an excellent O. × macrospilum with a spike of ten flowers, O. × excellens, in short, a series of excellent examples of all the the typical species of the season. The Masdevallia house contained some well-cultivated plants, those in flower including some good examples of M. Veitchiana grandiflora,

M. ignea, and M. Harryana. In the Cattleya house we noted a very fine and richly coloured C. Schrœderæ, and examples of other showy species, Lælia × Latona with two racemes and an aggregate of thirteen richly coloured flowers, L. purpurata, several good Selenipedium × Schrœdeæ, a very fine Phaius × Cooksoni with four spikes, two plants of the handsome Zygopetalum × Perrenoudi, Cymbidium Lowianum, Dendrobium nobile Cooksonianum, and others. Among plants not in flower, Vanda cœrulea and Arachnanthe Lowii were observed in particularly healthy condition. Elsewhere we observed Miltonia × Bleuana with three superb racemes, some fine M. vexillaria, Cymbidium × eburneo-Lowianum, Sophronitis grandiflora, Cypripedium villosum aureum, a massive C. × giganteum, and numerous others, together with a nice lot of seedlings to which a small house is largely devoted. The whole collection is in excellent condition and reflects great credit on M. Caen, who has charge of it.

In the establishment of M. Louis de Smet we found a good house of Odontoglossums, consisting largely of O. crispum, of which many were in flower and bud. Three rows of Cypripedium insigne, with a few C. villosum in large pots, were arranged along the centre of the house, the flowers being used for cutting. We also saw some large healthy plants of Stanhopeas suspended in an ordinary stove, where they are evidently quite at home.

M. A. Dallière has also a long house of Cypripedium insigne used for cutting, and in another house we saw many Cypripediums, including Exul, Lawrenceanum, barbatum, villosum, also C. × Lathamianum and other hybrids, together with several Selenipediums and Phalænopses. A smaller house contained some good Masdevallia ignea, coccinea, Veitchiana, and other interesting things.

In the establishment of M. Ed. Pynaert van Geert a large number of good Orchids are grown, and in this case, too, the cream of the collection was away at the Show, though some still remained. Among numerous Cypripediums we noticed some good C. Exul, Mastersianum, Rothschildianum, hirsutissimum, villosum, a good form of C. × augustum, C. × Chamber-Leeanum (described on page 168) and other interesting hybrids. There were also some good Odontoglossums and Cattleyas, and some charming plants of the Anœctochilus group, including Macodes Petola, M. Sanderiana, a fine batch of Hæmaria Dawsoniana, Microstylis Scottii. &c.

A visit to the establishment of M. de Smet-Duvivier proved particularly interesting, for here we found a very good general collection in excellent health, but considerations of space only permit us to enumerate a few of them. One plant of Odontoglossum Pescatorei had a panicle with no less than ten side branches, and the plants generally were very well grown.

O. ramosissimum was very interesting and some good forms of O. × Andersonianum, including the var. Ruckerianum were noted, also O. crispum with large plump bulbs and strong dark-green foliage. Some good Oncidium sarcodes and Cattleya Schrœderæ also attracted our attention. It was interesting to note that various botanical Orchids were represented as well as the commoner showy species. A batch of imported Dendrobiums was noticed, suspended the right way up, and an enquiry elicited the fact that M. de Smet does not believe in suspending them upside down, which can do no good in any case, and, owing to the different structure of the under surface of the leaves may be productive of injury.

Time did not permit us to visit more of the Ghent establishments, in which we found many features of interest.

(To be continued.)

DENDROBIUM NOBILE VARIEGATED.

Referring to the paragraph on page 178 of your last issue, it may interest some of your readers to learn that I, too, purchased from Messrs. Cowan & Co. (the "Liverpool Horticultural Co.") in May, 1896, a plant of Dendrobium nobile, which attracted me by the variegation of its foliage. It flowered in March, 1897, and again in April last, and my notes record "a pretty light variety with round lips." The plant is now a respectable sized one, with two leads (one of these a back growth) and the leaves of both possess the Dracæna-like striping mentioned, but these markings are always lost during the "resting period," when the leaves become a uniform dark green colour.

My plant is evidently a seedling, and not a mere piece of those you have referred to, for the back bulbs diminish in size down to an inch or so in length, which points to the conclusion that several plants existed in this importation, and probably came from one seed pod.

It is curious to speculate what was the parentage which induced this oddity. Or are the markings the result of environment? If so, it is singular that they should persist after this has been changed, and more so that the growth induced from the back bulbs of my plant (by nicking the rhizome) should have the same peculiarity.

Liverpool. F. H. Moore.

Variegation is due to an etiolated or diseased condition of the chlorophyll in the affected part, and, although it is difficult to suggest what is the predisposing cause, it is believed to be in some way connected with defective nutrition, for while usually permanent under the same conditions it has, in some cases, a tendency to disappear when plants are cultivated in very rich soils.—Ed.]

DENDROBIUM THYRSIFLORUM.

THE annexed illustration represents a very beautiful specimen of Dendrobium thyrsiflorum from the collection of Walter C. Clarke, Esq., Orleans House, Sefton Park, Liverpool, and is reproduced from a photograph sent by Mr. Clarke. How many racemes it bears we have no record, and probably larger plants exist, but it affords an example of what the species is capable of when well grown, and any one can imagine the effect produced by such a specimen, the graceful racemes of white flowers being set off to such advantage by the deep golden-yellow lips.

FIG. 7. DENDROBIUM THYRSIFLORUM.

This species seems particularly well adapted for specimen plants, as, with ordinary care, it goes on increasing from year to year, and flowers profusely in the spring—the only drawback it possesses is that the flowers do not last as long as those of several other species. It is a native of Burma, including the Shan States, and is most nearly allied to the Himalayan D. densiflorum, which may be distinguished by its rather dwarfer habit and the yellow sepals and petals.

ORCHIDS IN SEASON.

We are now reaching the dullest time of the year in our Orchid houses, which, however, does not mean that we are without flowers, but that the number of species showing their spikes is gradually growing smaller, for in a general collection, where careful selection has been made in regard to obtaining a constant floral succession, several interesting and showy species will decorate our houses during the present month.

The Cool house still possesses some of its summer stars, amongst which must be mentioned all those beautiful hybrid Disas which have come to the front during recent years, as well as their parent species. D. grandiflora is always a little later than the others, but will now soon be opened. The old Calanthe × Dominii is showing its last flowers after being in bloom for over ten weeks. A few late Miltonia vexillaria are still in flower. Oncidium crispum seems to flower at various seasons, and is now beginning to open. Sobralia macrantha and xantholeuca are opening their last flowers. A few Masdevallias are also still in flower, as M. peristeria with its curious greenish densely spotted flowers, the beautiful M. Veitchiana grandiflora, and M. × Pourbaixii, the latter a very floriferous hybrid. The brilliant Epiphronitis × Veitchii is also flowering very freely.

Amongst species showing for flower we may mention Dendrobium suavissimum, a few Odontoglossum Wallisii, and some late Epidendrum vitellinum.

The Intermediate department is still gaily decorated with Cattleya Forbesii, Schilleriana, the pretty little C. Aclandiæ, as well as the showy Lælia tenebrosa, and late examples of other showy species.

A few Epidendrums will also remain in flower part of the month. Several summer blooming plants are also promising as Calanthe Laucheana, a pretty free-growing kind. Cattleya Leopoldi and the beautiful C. Rex. Epidendrums will be represented by the well known E. radiatum and nemorale, and amongst Miltonias M. festiva and flavescens are pushing up rather quickly. Oncidiums will be represented by O. obryzatum, incurvum, Schlimii, Wentworthianum and others. Stanhopea Haseloviana, inodora, and several others will also flower before the end of the month.

Passing to the Warm house, a few more Cypripediums are in flower, amongst which C. Curtisii, Parishii, victoriæ-Mariæ, superbiens, Stonei, and several hybrids are very effective. In full bloom is the big Dendrobium moschatum, also the showy Sobralia sessilis and Lowii, the flowers of which unfortunately do not last long enough. A few more Vanda tricolor, suavis and teres will remain in flower. Here only a few plants are pushing forth their buds, amongst them the lovely Phalænopsis violacea, which is now opening. Dendrobiums aduncum and hercoglossum, and before concluding

we must not omit to mention the fine Galeandra Batemanii which always remains in flower for several weeks, and Grammatophyllum Rumphianum, whose long racemes also remain fresh for a long period.

ODONTO.

DENDROBIUM × RADIANS.

A VERY striking Dendrobium was exhibited by Messrs. Hugh Low & Co., at the recent Temple Show, which came in a batch of D. Lowii from Borneo, and was not noticed as being different until the flowers expanded. They then proved to be white, with a deep cinnabar-orange blotch at the base of the front lobe of the lip, and several similar lines extending down the disc, also a large blotch of the same colour at the base of the column. The stalk of the front lobe of the lip is also much broader, and the hairs are nearly obsolete, though not quite so, as may be seen when examined under the lens. On looking the matter up, I believe it agrees with Dendrobium radians, Rchb. f. (*Xen. Orch.* ii. p. 130, t. 146, fig. 1 and 2), described and figured from a Bornean plant which flowered with the same firm in May, 1863, and seems to have been immediately afterwards lost sight of. There is also a D. erythropogon, Rchb. f. (in *Gard. Chron.*, 1885, xxiv, p. 198), which, from the description, I believe is a form of the same. It also appeared among plants of D. Lowii in the same establishment, and agrees with that species in habit, though differing in the colour and details of the flower. Reichenbach, when describing it, suggested that it might be a natural hybrid, without further suggestions as to the parentage. I find there is a Bornean species, D. sculptum, Rchb. f. (*Bot. Zeit.*, 1863, p. 128 : *Xen. Orch.*, ii, p. 131, t. 146, fig. 4-7), which flowered with Messrs. Hugh Low & Co., in 1863, and presumably came home in the same importation as D. radians. It belongs to the same section as D. Lowii, and has white flowers with a nearly round orange blotch on the centre of the lip. This and D. Lowii I believe to have been the parents of D. × radians, for the flowers of the latter are as nearly intermediate as they can well be, even the markings on the disc seem to be a compromise between the orange blotch of the one and the redish keels of the other. D. erythropogon, which I rank as a variety of D. radians, had pale whitish ochre flowers, and the two outer of the seven reddish-orange lines on the disc bore some short hairs, as in the recent examples. It may be a long time before this pretty little plant is obtained artificially—I do not even know if D. sculptum is still in cultivation—but if any one has an opportunity of making the cross I hope they will not fail to utilise it. Its re-appearance is certainly interesting.

R. A. ROLFE.

CALENDAR OF OPERATIONS FOR JULY.

By H. A. Burberry, King's Heath, Birmingham.

We must make the best use of the summer weather, so that our Orchids may grow freely while we have the means at hand to enable them to do so. Do not starve them for want of moisture; at the same time give them plenty of light and sun by removing the blinds as early as all danger of burning or scalding is past, and give enough air to keep the atmosphere fresh and pure. It will now be undesirable to make a wide difference between the temperature of the Cattleya, Lælia, and East Indian Houses. If, however, many of the cooler growing Orchids, such as Odontoglossums, Oncidiums, Cypripediums, Masdevallias, &c., are growing with the Cattleyas and Lælias, then of course it is most desirable that a difference in the temperature should be effected, in order to suit the better the last-named species. Many growers are doubtless inconvenienced in this respect, their love for Orchids causing them to get a large number of various species together, which must necessarily grow together in the same compartment owing to want of room.

It is in such instances where the cool pit, or frame, having a northern aspect, is of immense value to them; because then their cool Orchids proper may be placed there as soon as the summer weather has become somewhat settled, which this year was rather late. No doubt there are many species which delight in the frame treatment during the summer months; that is, supposing they are properly shaded from the hot sunshine and other due attention given. The frame should be raised sufficiently high to allow of a temporary stage being placed therein, a foot or so from the ground floor, on which to stand the pots. There are a large number of Orchids that may be so grown during summer, comprising the whole of those species commonly known as Cool house Orchids.

The East Indian house Orchids are now doing their best, the warm weather of the last few weeks being greatly appreciated by them. The Phalænopsis are bristling with new roots. It is quite useless to try to confine the roots of these and other such air-rooting Orchids to the basket or pot in which they grow. In fact, to attempt to do so results more often than not in the deterioration of the plants: they resent too much meddling with. All that Phalænopsis require—together with Vandas Saccolabiums, Aërides and Angræcums—is to be made secure in some kind of receptacle, either for suspending or standing on the stages, as the case may demand, after which the roots should *very rarely* be disturbed, but allowed to ramble about at their own sweet will, keeping them more or less supplied with moisture, in accordance with the season of the year, by syringing them with tepid water.

The Dendrobiums are also making good growth. If the house is well ventilated, it is a good plan to give them a good syringing two or three times daily on all bright hot days. It is well, however, to use some care when syringing amongst these plants, as there are generally some few that give more or less trouble by the new growths damping off. Especially is this the case if they have been recently re-potted, and received too much water before again well established with new roots. Dendrobium Bensonæ is a great offender in this respect, but I have also had others damp off in the same way, including D. aureum, D. nobile, D. crepidatum, D. cretaceum, and occasionally some few others, in fact all are liable in a more or less degree. With a house of Dendrobiums some mishaps of this kind are almost sure to happen; no matter how careful the operator is regarding the water lodging in the new growths, he never gets through the season without losing a few. I believe that the mere fact of water lodging in the new growth is not a sufficient cause for damping, as it is perfectly natural for it to do so. In their native habitats they are frequently, if not continually, drenched with water during their growing or summer season. In my opinion a close, stuffy, night temperature, which may likewise descend to a rather low figure before the morning, is the primary cause. I find it much the safer way at this time of the year, when Dendrobiums are growing and naturally somewhat tender, to have a slight warmth in the pipes, so that a little ventilation can always be left on all night as well as day.

Chysis, Catasetums, Mormodes, Coryanthes, and Cycnoches require exactly similar treatment to the Dendrobiums. Care must be taken not to over-water these specimens at the root; they are better if allowed to get quite dry before being dipped, except the first-named genus which is fond of liberal supplies when growing. The new tender growths of the above species are apt to damp off exactly in the same manner as the Dendrobiums, and from exactly the same causes. It is much the better way to grow these Orchids in baskets or pans suspended from the roof.

Other species requiring Dendrobium treatment are Bulbophyllums, Cirrhopetalums, Aganisias, Cyrtopodiums, and Spathoglottis. The first-named three are likewise best grown in baskets and pans, and suspended, whilst the last two may be grown in pots or pans on the stages.

Calanthes (deciduous) are also warm growing Orchids, and much water either to the roots or on the foliage is distasteful to them. They are better provided for if placed together at one end of the house, or on a shelf by themselves: they can then be watered sparingly, and the syringe can be better kept off them.

Then there are the evergreen Calanthes, and these don't seem quite so popular as they used to be. They are nevertheless very pretty and when well-grown are very effective, their tall, many-flowered spikes of neat white

or lilac flowers towering above the handsome foliage are refreshing to see. The two best species are probably C. veratrifolia and C. masuca, whilst the best hybrid is probably C. × Dominii. They may by grown well, treated either as Warm house or Intermediate house Orchids, and thrive best if potted in a mixture of sandy loam and leaf-soil. They are summer flowering kinds, and, when large, make grand plants for exhibition purposes. Being evergreen and bulbless, they consequently do not require a period of rest like the deciduous kinds, but are always in a more or less growing condition.

Not so with the Cœlogynes, which are now growing apace. The members of this genus, although they do tolerably well in almost any temperature, are really better cultivated if given a good amount of warmth with air and light; they are also fond of copious supplies of water during the summer months. In fact their cultivation more closely resembles that of the Dendrobiums, only that the former, seeming more hardy, will take larger supplies of air and water with greater impunity. They all delight in drought when resting.

If there are any species of Cattleya remaining to be re-potted this season they should be now done as quickly as is convenient. In fact it is now too late to disturb such early flowering kinds as C. Trianæ and C. chocoensis, which are already halfway through their growing season. Soon we may re-pot C. Warneri, C. Warscewiczii (gigas), Lælia purpurata, and L. tenebrosa, taking them in hand as they pass out of bloom and commence to emit new roots from the base. Never disturb a Cattleya or Lælia for purposes of re-potting unless it is absolutely necessary—which is not until the new growths have reached the rim and are growing and rooting over the sides of the pot. When re-potting is really necessary, do it with as great care as possible, so as to cause the least check. However careful one may be, a check is the inevitable result, therefore it is always wise to keep them pretty shady and moist by occasionally spraying for a week or two after the operation, to induce the roots to recover and take hold of the new compost without loss of foliage. In the case of C. Warscewiczii this spraying must, of course, not be continued very long, because it is a species so susceptible to throwing the second break, which must always be avoided if possible. To do this, as soon as ever the roots are seen to be growing nicely, the plants should be removed to a more airy house, such, for instance, as a vinery, taking care, however, to still shade the newly potted ones for some time to come, or undue shrivelling and loss of foliage might occur. The majority of the other species of Cattleya and Lælia will be now actively growing, and should have their wants well attended to by spraying them occasionally, especially early mornings and again in the afternoon, when the shading is removed and ventilation reduced.

I mentioned the frame system of cultivation as a means whereby the cooler Orchids may be separated from the warmer during summer, thus giving both a better opportunity to have their requirements more strictly and better catered for. But where a house exists which is kept solely for the benefit of the cool Orchids proper, there is but little doubt that it is far and away better than the frame. Such a house must now be kept as cool and as moist as possible, giving an abundance of air, especially during the night time, and keep it well shaded from the hot sun during the day. A few cool growing Lælias do well in this house, such as L. harpophylla and monophylla. Many of the Oncidiums also enjoy it, such as O. tigrinum, unguiculatum, superbiens, aurosum, concolor, cheirophorum (during summer only), Cavendishianum, prætextum, Phalænopsis (during summer only), ornithorrhynchum, Forbesii, crispum, Gardnerianum, Gravesianum, hastatum, dasytyle, curtum, cucullatum, incurvum, loxense, macranthum, Marshallianum, zebrinum, varicosum, serratum, and spilopterum (Saintlegerianum). Also, as is well known, most of the Odontoglossums are best suited in this house. Such genera also as Masdevallia, Sophronitis, Pleione, some of the Zygopetalums, including Z. Mackayi, Trichosma suavis, Restrepias, Ornithidium Sophronitis, do well here. The latter is a pretty little Orchid when flowered well, but to do so it requires to be left to grow "wild" as it were, and ramble over the sides of the basket. All the Miltonias also grow well cool during the summer, together with Maxillaria grandiflora, M. picta, and M. venusta. Many Lycastes also do well here, including L. Skinneri, aromatica, cruenta, costata, Deppei, fulvescens and Lawrenceana. Some of the Epidendrums do better here, such as E. vitellinum and E. Wallisii, also a few Dendrobiums, such as D. speciosum, D. s. Hillii, D. infundibulum, D. Jamesianum, D. japonicum, and D. Falconeri, together with many Cypripediums, including such well-known species as C. insigne, Boxallii, Spicerianum, Charlesworthii, venustum, and villosum, in addition to the great number of hybrids resulting from these parents. Then there is Colax jugosus, an extremely pretty Orchid when well-grown and flowered; also many Cymbidiums, including C. Lowii, eburneum, giganteum, and Mastersii, the Auguloas, and Ada aurantiaca. Those plants which require a little more heat during the autumn and winter, should be removed to the Intermediate house when the cold weather approaches.

Odontoglossum Schlieperianum, which is of the O. grande section, is just now flowering, and will at once commence making growth. It grows fairly well cool, but is better in the end for intermediate temperature, especially during the cooler half of the year.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

MEETING at the Coal Exchange on the 16th June. Present: Messrs. Thompson (in the chair), Shorland Ball, Warburton, Gratrix, Weathers, Bolton, Leemann, Holmes, and Mills (hon. secretary).

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Hay), showed Zygopetalum Ballii (Rolfe), a handsome new species allied to *Z.* rostratum, but with differently shaped flowers much brighter in colour (First-class Certificate). Also two magnificent plants of Dendrobium Falconeri, each of which had upwards of 360 blooms expanded, and each obtained a Cultural Certificate. The same exhibitor also staged an effective group of miscellaneous Orchids, which received a Vote of Thanks.

John Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Cattleya Mossiæ grandiflora, C. M. chrysotoxa, very distinct and pretty, C. M. Mrs. E. Ashworth, C. M. formosa, C. M. Reineckeana (so entered but showing some pink in the petals and sepals), C. Mendelii (Award of Merit), Cypripedium × Goweri (Award of Merit), C. Curtisii giganteum, Odontoglossum crispum (Award of Merit), O. c. grandiflorum, excellent in form and substance and a very large flower, in colour nearly white (Award of Merit), O. c. fastuosum, O. × Wilckeanum nobilior (Award of Merit), O. polyxanthum, and Lælio-cattleya × Canhamiana, very fine (Award of Merit). This exhibitor also staged a splendid group of Orchids containing many other good things besides those mentioned above, a Silver Medal being awarded to the group.

A. Warburton, Esq., Haslingden (gr. Mr. Lofthouse), showed Cattleya Mendelii Aurora, Lælio-cattleya × Lady Wigan, L.-c. × Iolanthe, L.-c. × Bertie Warburton, exceptionally fine (First-class Certificate), Lælia purpurata fastuosa (Award of Merit), L. p. Backhouseana (Award of Merit), Odontoglossum luteopurpureum Vuylstekeanum (First-class Certificate), and O. × excellens Thompsoni (Award of Merit). The same exhibitor also received a Silver Medal for a very striking group.

Duncan Gilmour, Esq., Sheffield (gr. Mr. Day), showed Cattleya Mossiæ Wageneri (First-class Certificate), C. M. Joan of Arc (Award of Merit), C. M. amabilis, C. M. Reineckeana, C. M. superba, and C. M. Sunset.

W. Bolton, Esq., Warrington (gr. Mr. Cain), showed Odontoglossum crispum, O. × mulus, Cattleya Mendelii, C. M. Boltoni (Award of Merit), C. Mossiæ Rappartiana (First-class Certificate), C. M. Mrs. Bolton (Award of Merit), and C. Warscewiczii (gigas).

Thomas Walker, Esq., Bolton (gr. Mr. Barclay), showed Odontoglossum nebulosum very heavily marked with exceptionally dark and large spots.

H. Shaw, Esq., Birch Vale (gr. Mr. Cliffe), showed Odontoglossum crispum and Dendrobium primulinum.

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed Cypripedium Lawrenceanum Gratrixianum, a new albino form, very much in the way of Hyeanum, but showing some red in the petals and a flush of the same colour over the pouch, but with the typical Lawrenceanum spots on the petals entirely suppressed (Award of Merit), and Cattleya Mossiæ M. Cahuzac (Award of Merit).

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), showed Cypripedium × macropterum, C. Curtisii, and a very good form of C. bellatulum.

Samuel Hinchliffe, Esq., Altrincham (gr. Mr. Morton), showed a cut bloom of an immense form of Dendrobium Dalhousieanum, which received a Vote of Thanks.

Messrs. Stanley Mobbs and Ashton, of Southgate, showed a very fine collection of cut blooms, which received a Vote of Thanks. They also sent Cattleya Mossiæ Sir Thomas Lipton (Award of Merit), and Cypripedium × Olenus Sir Thomas Lipton.

Messrs. F. Sander and Co., St. Albans, showed Lælio-cattleya × Duke of York, a very fine cross between Lælio-cattleya × elegans and Cattleya × Brymeriana (First-class Certificate), and Lælio-cattleya × Lily Measures.

Mr. John Robson, Altrincham, showed a good Odontoglossum crispum.

Messrs. Linden, Brussels, showed Odontoglossum crispum Morning Star, a very beautiful and distinct form (First-class Certificate), O. c. Le Czar (Award of Merit), and O. c. Dallemagneæ (Award of Merit).

At the Meeting held on June 30th, 1898, the following members were present :—Messrs. W. Thompson (in the chair), G. Shorland Ball, Hodgkinson, Greenwood, Leemann, Bolton, Backhouse, Cypher, Stevens, Johnson. and Mills (hon. sec.).

D. B. Rappart, Esq., Liscard (gr. Mr. Nicholson), showed a very fine plant of Cattleya Gaskelliana alba, which received a First-class Certificate.

S. Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed Cattleya Mossiæ Wageneri, with small flower, and the Committee expressed a desire to see the plant again when stronger. C. M. Reineckeana (Award of Merit) and Lælia tenebrosa, with excellent dark lip, but a little weak in the sepals and petals (Award of Merit).

Mrs. Briggs-Bury, Accrington (gr. Mr. Wilkinson), showed Lælio-cattleya × Fire King, a magnificent form (First-class Certificate), Cypripedium × Gertrude Hollington, one of the largest flowers of this variety we have seen (First-class Certificate), and Odontoglossum crispum Mariannæ (Award of Merit).

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), showed Cypripedium bellatulum album (First-class Certificate).

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Lælio-cattleya × Arnoldiana, vey fine (First-class Certificate), Odontoglossum Pescatorei album (Award of Merit), Cattleya Mendelii, Odontoglossum crispum, Cypripedium × T. W. Bond, C. × conco-bellatulum, C. Hookeræ Volonteanum, and Lælia tenebrosa.

Thomas Statter, Esq., Whitefield (gr. Mr. Johnson), showed a very good form of Cypripedium conco-bellatulum (Award of Merit), and Lælia stellata (Lælia harpophylla × tenebrosa).

Wm. Bolton, Esq., Warrington (gr. Mr. Cain), showed Lælia tenebrosa, Cattleya Warscewiczii gigantea, a very fine flower (Award of Merit), C. Mossiæ, and C. species, a very curious flower, half of which was pink and the other half a rather dark red, slightly mottled in some parts. The flower appeared very much like a Mossiæ, and the curious colouring may not be constant. The same exhibitor also showed two plants of Odonto-glossum crispum, both spotted varieties, one of which obtained an Award of Merit.

W. H. Almond, Esq., Blackburn (gr. Mr. Hurst), showed Cattleya Mossiæ and C. M. Ernestii.

Mr. Thomas Holden, Royton, showed Cattleya Mendelii.

Mr. James Cypher, Cheltenham, showed Cattleya Mossiæ delicatissima (Award of Merit), C. Warneri, a very good form, Thunia Winniana (Award of Merit), an Odontoglossum called O. maculatum × cordatum (Award of Merit), and Dendrobium Bensonæ majus.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THERE was a very good display of Orchids at the Drill Hall, James Street, Westminster, on June 14th, the first meeting since the Temple Show, when the following members of the Orchid Committee were present:—H. J. Veitch, Esq., in the chair, and Messrs. J. O'Brien (hon. sec.), T. W. Bond, R. Brooman-White, H. J. Chapman, W. Cobb, S. Courtauld, De Barri Crawshay, J. Douglas, J. G. Fowler, J. T. Gabriel, E. Handlay, E. Hill, H. Little, H. M. Pollett, A. H. Smee, C. Winn, and W. H. Young.

Sir Trevor Lawrence, Bart., Dorking (gr. Mr. White), staged a small group of choice things, including Geodorum Augusti, the handsome Disa × kewensis, Bulbophyllum saltatorium (Botanical Certificate), B. Lobbii, Burford var., with brighter-coloured flowers than the type (Botanical Certificate) Odontoglossum crispum, O. × elegantius Baroness Schröder (Award of Merit), a fine Dendrobium Bensonæ with a pseudobulb bearing

eighteen fine fascicles and an aggregate of thirty-nine flowers, to which a Cultural Commendation was given, D. Phalænopsis amabilis, D. × polyphlebium, &c.

Sir F. Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), staged a small and choice group, comprising Lælio-cattleya × Canhamiana, L.-c. × superbo-elegans, L.-c. × Arnoldiana, Cattleya Mossiæ very well flowered, C. M. maxima, Lælia tenebrosa, Cymbidium tigrinum with three racemes and six flowers, Miltonia vexillaria Constance Wigan, a fine light variety, and a fine plant of Scuticaria Hadwenii, with six flowers, to which an Award of Merit was given.

Messrs. Rothschild, Gunnersbury House, Acton (gr. Mr. Hudson), exhibited a noble specimen of Lælia purpurata bearing ten racemes and an aggregate of thirty-two flowers, to which a silver Banksian Medal was given for good culture. The plant was originally purchased by Mr. Hudson's father in 1861.

Mr. J. O'Brien, Harrow-on-the-Hill, exhibited Masdevallia angulata, Rchb. f., a rare species allied to M. Mooreana, to which a Botanical Certificate was given.

G. H. Bird, Esq., Manor House, West Wickham (gr. Mr. Reddan), sent Odontoglossum crispum Bonnyanum.

J. Bradshaw, Esq , The Grange, Southgate, exhibited a small group, consisting of Odontoglossum crispum, O. maculatum, Cattleya Mossiæ Reineckeana, and others, Lælia tenebrosa, Lælio-cattleya × Arnoldiana and L.-c. × Aphrodite.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), sent a large dark form of Lælia purpurata, also L. p. Mrs. De B. Crawshaw, white with a purple zone round the throat, and Cattleya Mendelii.

H. Druce, Esq., Circus Road, St. John's Wood (gr. Mr. Walker), exhibited Cypripedium bellatulum and three pretty little hybrids, one from C. niveum and two from C. concolor, in each case C. bellatulum being the pollen parent.

A. Hay, Esq., sent a fine Cattleya Warscewiczii.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), received an Award of Merit for Lælia purpurata Ernestii, a pretty white form with a pale rosy zone round the throat.

A. H. Wilton, Esq., Castleton House, Clifton, showed a finely-flowered Cattleya Mossiæ.

Mrs. Wingfield, Ampthill (gr. Mr. Empson), showed a form of Cattleya Mossiæ with curiously splashed flowers.

Messrs. James Veitch & Sons, Chelsea, exhibited a choice and very effective group, to which a Silver Flora Medal was given. It contained half-a-dozen plants of Lælio-cattleya × Hippolyta, one clear orange-yellow

form, called var. aurantiaca, receiving an Award of Merit, L.-c. × Eudora splendens (First-class Certificate), L.-c. × E. alba, L.-c. × Canhamiana superba (Award of Merit), Cattleya × Gertrude (superba ♀ × Mossiæ ♂), C. Mossiæ Reineckeana, C. × Œnone (Mossiæ × labiata), Epidendrum × radico-vitellinum, this time with the petals normally developed, E. × radicanti-Stamfordianum (Stamfordianum ♀ × radicans ♂), Epicattleya × radiato-Bowringiana (C. Bowringiana ♀ × E. radiatum ♂) with purple flowers, a fine Epiphronitis × Veitchii with nine spikes, Disa × langleyensis, a fine D. × Veitchii, Trichopilia suavis alba, &c.

Messrs. Stanley Mobbs and Ashton, Southgate, also received a Silver Flora Medal for a very fine group, containing Lælia tenebrosa, some good L. purpurata, a fine series of Cattleya Mossiæ, among which the varieties Wageneri and Madonna were conspicuous, the latter receiving an Award of Merit, Angræcum arcuatum, Epidendrum hastatum, Cypripedium × Rossii, C. × Evenor Southgate variety, C. Dayanum, C. Rothschildianum, a pale variety of C. × Olenus called Sir Thomas Lipton, derived from C. ciliolare and C. bellatulum album, Phalænopsis amabilis, Dendrobium Victoria-Reginæ, Odontoglossum citrosmum roseum, Oncidium hastatum, &c.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, showed Odontoglossum crispum Prince of Wales, a remarkable variety, to which both a First-class Certificate and a Cultural Commendation were given. The flowers measured $4\frac{3}{4}$ by $4\frac{1}{4}$ inches, and the lip was $1\frac{3}{4}$ inches broad, the colour being white, with a slight pink stain on the broad sepals, and about three light cinnamon spots in front of the crest of the lip. There were 12 bulbs of enormous size, and four leads, and the plant has taken about 11 years to reach the flowering stage. It is the most robust example of the species we have ever seen.

Messrs. F. Sander & Co., St. Albans, exhibited a small and choice group, containing three plants of the pretty Thunia × Veitchii inversa, Sobralia × Veitchii, S. × Amesiæ, S. xantholeuca, Lælio-cattleya × Lily Measures (L.-c. × Arnoldiana ♀ × L.-c. × Gottoiana ♂), and the handsome L.-c. × Duke of York (L.-c. × elegans ♀ × Cattleya × Brymeriana ♂) with bright rose-purple flowers, the latter receiving a First-class Certificate.

Messrs. Linden, L'Horticulture Internationale, Brussels, exhibited the pretty Eulophia guineensis, and three good forms of Odontoglossum crispum.

Messrs. J. McBean & Sons, Cooksbridge, Sussex, showed a good group of Odontoglossum crispum, containing about 18 plants.

Mr. J. W. Moore, Eldon Place Nursery, Bradford, showed a small plant of the rare Vanda pumila.

Lecture on Hybrid Orchids.

The subject of the afternoon lecture was "Hybrid Orchids," by Mr. J. O'Brien, the chair being taken by Dr. Masters. The lecturer commenced by alluding to previous papers on the same subject given by Mr. Harry Veitch and Mr. C. C. Hurst, and therefore prepared to treat the subject entirely from a cultural standpoint. He claimed that the hybridist had raised a large number of showy kinds that bloom at all seasons of the year. Not only had many hybrids been raised which cannot occur in a wild state, but by inducing plants to bloom out of their proper season the hybridist was enabled to cross species that bloomed at different seasons of the year. Thus, in addition to modifications of form and new tints of colour, he also obtained plants that bloom between seasons—a very decided advantage.

Hybridisation, however, had not been an unmixed blessing, for, among Cypripediums, especially, there were many that could only be described as "weeds," and he advised raisers to use care in selecting seedlings for distribution. He also made some allusion to self-fertilisation, which he thought was only provided by Nature as a last resource, and to the fact that mechanical irritation of the stigmatic surface had in some cases induced the swelling of capsules, which, however, contained no perfect seed.

Coming to the work of hybridising, the lecturer remarked that Orchid raisers had two disadvantages. They frequently sowed seeds which he believed were incapable of germination, and there were our long sunless winters. Still, he thought that a larger proportion of the seed sown yielded plants than was the case in a wild state. Some species seemed to resist every attempt to hybridise them, as Lælia Digbyana.

Seeds should be sown as soon as ripe, for the risk of sowing was less than of keeping them, even in winter. As to the best medium for sowing the seeds on, many substances had been tried, but Mr. Seden had found nothing possessing greater advantages than the surface of the compost in which a healthy plant of the parent species was growing. One suspended near the glass should be selected, on which the seed should be sown thinly, and great care should be taken that it was not washed away or even disturbed.

A fruitful cause of failure was the growth of moss or other low vegetable life over the compost, which latter should therefore be sterilised by hot water before the young seedlings were pricked off into it. They should be pricked off into small pots as early as possible.

Ventilation needed great care, especially in spring, when the top should be kept closed or as nearly so as possible. He thought a foot swing ventilator at either end of the house was sufficient.

A discussion followed, in which Mr. C. C. Hurst, Mr. De B. Crawshay, Mr. R. A. Rolfe, and Dr. Masters successively took part, and a cordial vote of thanks was accorded to the lecturer.

At the meeting held on June 28th, there was again a very good display, and three fine novelties gained the award of a First-class Certificate, two of them being hybrid Cypripediums. The members of the Committee present were :—H. J. Veitch, Esq., in the chair, and Messrs. J. O'Brien (hon. sec.), W. Cobb, S. Courtauld, De B. Crawshay, J. G. Fowler, T. B. Haywood, E. Hill, J. Jacques, H. Little, H. M. Pollett, F. Sander, A. H. Smee, H. Williams, and W. H. Young.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a small but very interesting group, containing the handsome Habenaria rhodochila, Microstylis bella, the rare Mesdevallia Barlæana, varieties of Lælia tenebrosa, a fine inflorescence of Cattleya Warscewiczii bearing seven flowers, a fine form of Odontoglossum × excellens, and Stanhopea Rodigasiana, a striking novelty to which a First-class Certificate was given. The flowers were borne singly on long pendulous peduncles, and were speckled with dull purple on a cream white ground.

Sir Frederick Wigan, Clare Lawn, East Sheen (gr. Mr. Young), exhibited Sobralia × Veitchii aurea, much more yellow than the type, S. xantholeuca, and a supposed natural hybrid from it called S. × Wiganiæ, bearing large soft yellow flowers tinged with rose, and a handsome variety of Lælio-cattleya × Canhamiana called Joyce Wigan, with delicately tinged and veined sepals and petals, and very richly coloured lip, to which an Award of Merit was given.

De B. Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), showed a fine variety of Odontoglossum × excellens called Mrs. De B. Crawshay, most resembling O. triumphans in shape and colour.

W. A. Gillett, Esq., Fair Oak Lodge, Bishopstoke, Hants (gr. Mr. Carr), showed a very fine form of Lælia purpurata.

The Rev. E. Hanley, Royal Crescent, Bath, sent good flowers of Cattleya Mossiæ Wageneri.

T. McMeeking, Esq., Falkland Park, South Norwood (gr. Mr. Wright), showed a very fine Cypripedium Rothschildianum.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, sent three distinct forms of Masdevallia Chimæra.

Leopold de Rothschild, Esq., Gunnersbury House, Acton (gr. Mr. Hudson), exhibited Mormodes pardinum unicolor, a clear yellow variety.

T. W. Swinburne, Esq., Corndean Hall, Winchcombe, sent two fine flowers of Sophronitis grandiflora, one, called gigantea, being $3\frac{3}{4}$ inches across.

F. P. White, Esq., The Willows, Wargrave, Twyford (gr. Mr. Pope), showed Cattleya guttata bearing a spike of thirty-two flowers.

Messrs. James Veitch and Sons, Chelsea, stayed a very fine group, to which a Silver Flora Medal was given. It contained some fine forms of Cattleya Mossiæ, Mendelii, Warscewiczii and other species, C. × Gertrude (superba × Mossiæ) C. × Harold var. Clarissa (Gaskelliana × Warscewiczii), C × Adela (Trianæ ♀ × Percivaliana ♂), a handsome hybrid with lilac-rose sepals and petals and a dark richly-coloured lip (Award of Merit), Lælia × Stella, some good L. purpurata, Lælio-cattleya × Hippolyta aurantiaca, some fine L.-c × Canhamiana, Epiphronitis × Veitchii, some good pans of Disa × Veitchii, Cypripedium × Euryale and others, a fine plant of Phalænopsis × Luedde-violacea, Vanda cristata superba, Phaius bicolor purpurescens, &c.

Messrs. Hugh Low and Co., Bush Hill Park, also received a Silver Flora Medal for a very fine group, containing a superb Cattleya Mossiæ Reineckeana and other fine Cattlayas, Epidendrum prismatocarpum with four fine spikes, some good forms of Lælia tenebrosa and Oncidium crispum, O. macranthum, O. pulchellum, Cypripedium × T. B. Haywood, a fine dark C. Lawrenceanum, &c. Two splendid novelties, each of which received a First-class Certificate, were Cypripedium × Mrs. Reginald Young (Lowii × Sanderianum) and C. × I'Ansoni (× Morganiæ × Rothschildianum).

Messrs. Stanley Mobbs and Ashton, Southgate, received a Silver Banksian Medal for a fine group, containing some good Cattleya Mossiæ, Schilleriana, and others, Lælia tenebrosa and purpurata, a fine dark Stanhopea tigrina, Lycaste Deppei virens with the sepals wholly green, Mormodes pardinum unicolor, Chysis aurea, Oncidium Papilio, spilopterum and Lanceanum, a fine Odontoglossum luteopurpureum, Miltonia vexillaria, and other good things.

Messrs. B. S. Williams and Son, Upper Holloway, also received a Silver Banksian Medal for a good group, containing Thunia Marshalliana, some good forms of Lælia tenebrosa, the handsome Pescatorea Lehmanni, Aërides expansum, Cattleya × Breautiana, Cypripedium × Lebaudyanum, C. × Harrisianum superbum, and other Cypripediums.

ORCHID PORTRAITS.

Aceras Bolleana, Siehe.—*Gard. Chron.*, June 11, p. 365, fig. 138.

Brassavola (Lælia) Digbyana.—*Monit. d'Hort.*, June 10, p. 126, with plate, fig. 1.

Cattleya Mendelii Oakes Ames.—*Journ. of Hort.*, June 23, pp. 515, 521, fig. 97.

CATTLEYA MOSSIÆ (three-lipped).—*Gard. World*, June 18, p. 665, with fig.

CYPRIPEDIUM × EVENOR SOUTHGATE VAR.—*Gard. World*, June 4, p. 635, with fig.

DENDROBIUM NOBILE (specimen plant).—*Gard. Chron.*, June 4, pp. 340, 341, fig. 130.

EPICATTLEYA × RADIATO-BOWRINGIANA.—*Gard. Mag.*, June 18, p. 385 with fig.; *Gard. Chron.*, June 25, p. 391, fig. 146.

EULOPHIELLA PEETERSIANA.—*Gard. Mag.*, June 11, p. 371, with fig.

LÆLIO-CATTLEYA × DIGBYANA-TRIANÆ.—*Monit d'Hort.*, June 10, p. 127, with plate, fig. 2.

LÆLIO-CATTLEYA × HIPPOLYTA DULCOTE VAR.—*Gard. Mag.*, June 18, pp. 390, 391, with fig.

LÆLIO-CATTLEYA × INTERMEDIO-FLAVA GOLDEN QUEEN ("Golden Gem," by error).—*Journ. of Hort.*, June 16, p. 499, fig. 94.

ODONTOGLOSSUM × ADRIANÆ VENUSTUM.—*Gard. Mag.*, June 4, p. 357, with fig.; *Journ. of Hort.*, June 9, p. 477, fig. 89.

ODONTOGLOSSUM × CRISPO-HARRYANUM.—*Gard. Mag.*, June 4, p. 356, with fig.

ODONTOGLOSSUM CRISPUM PRINCE OF WALES.—*Gard. Chron.* June 25, p. 390, fig. 145; *Journ. Hort.*, June 30, p. 533, fig. 102.

ORCHIS FOLIOSA.—*Garden*, June 18, pp. 514, 515, with fig.

ORCHIS LATIFOLIA.—*Garden*, June 18, pp. 514, 515, with fig.

ORCHIS MACULATA SUPERBA.—*Garden*, June 18, pp. 514, 515, with fig.

ORCHIS MONOPHYLLA, Rolfe.—*Bot. Mag.*, t. 7601.

RESTREPIA STRIATA.—*Journ. Hort.*, June 23, p. 515, fig. 97.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

J. W. A., Liverpool.—A good, bright, and well marked form of Cattleya Gaskelliana. As suggested, Trinidad may be only the port of shipment, for it is not a native of that island, though cultivated there. *See* p. 204 of our last volume.

L. C. R. T., Dunstable.—Maxillaria tenuifolia.

E. R., Bury.—The malformation of the flowers of Cypripedium barbatum is due to some constitutional peculiarity for which we fear there is no remedy, especially as it has occurred for several years. The plant seems thoroughly healthy, and being grown with others which behave properly, we should think is not worth keeping. Many abnormal forms are constant, and some are worth keeping as curiosities, but the present one seems a hopeless cripple.

T. H., Northwich.—Eria acervata.

G. M. L., Lincoln.—Dendrobium formosum, the one from Assam, the other, the Australian D. Kingianum.

G. B., Hamburg.—Dendrobium calceolaria.

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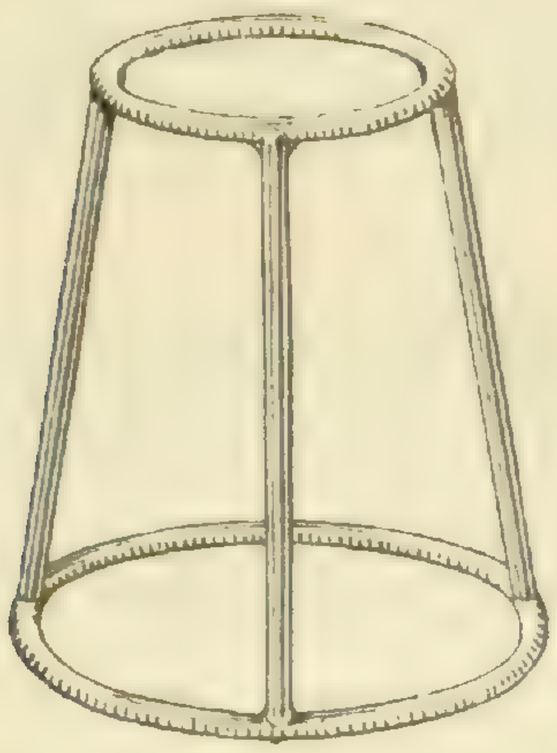

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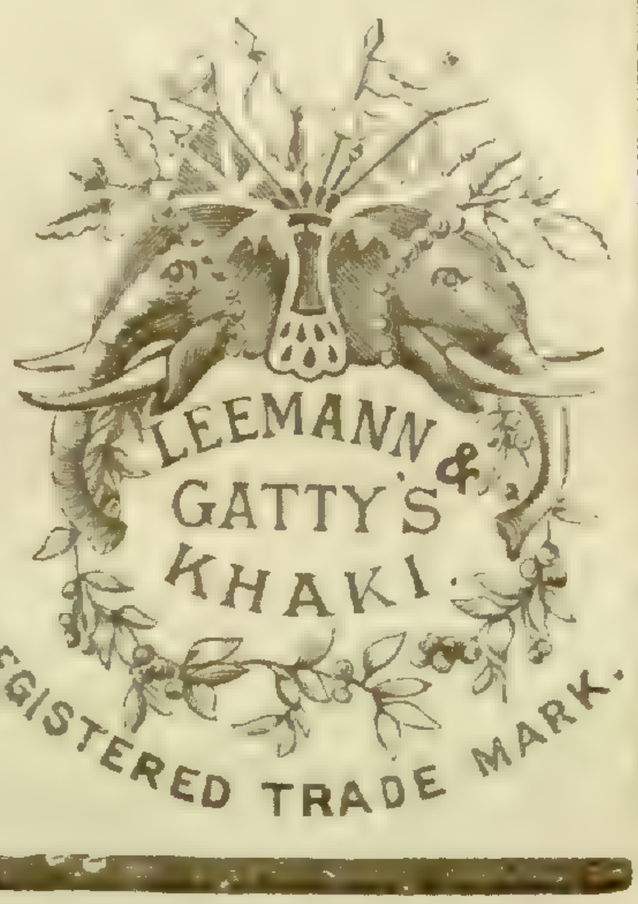

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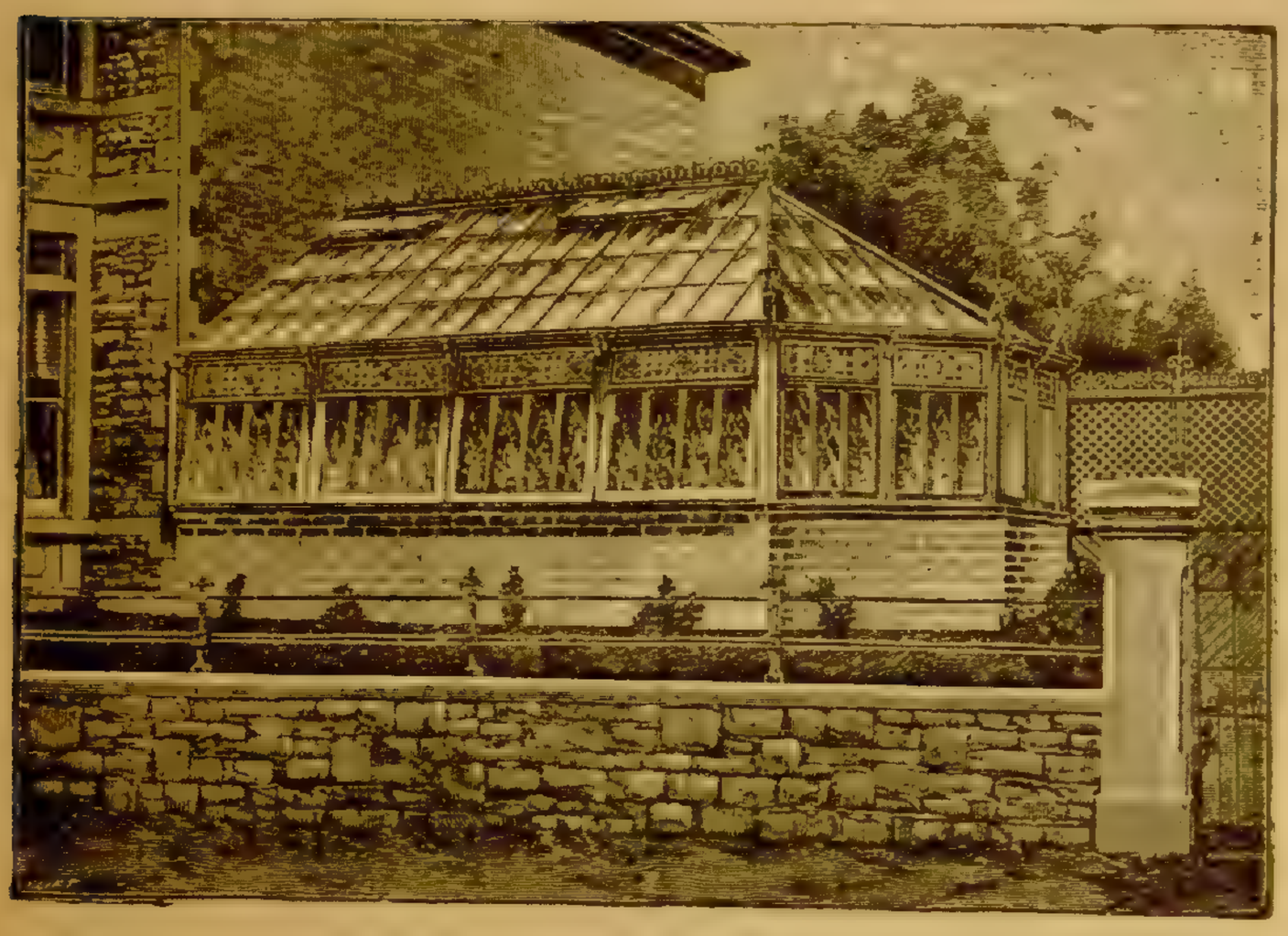

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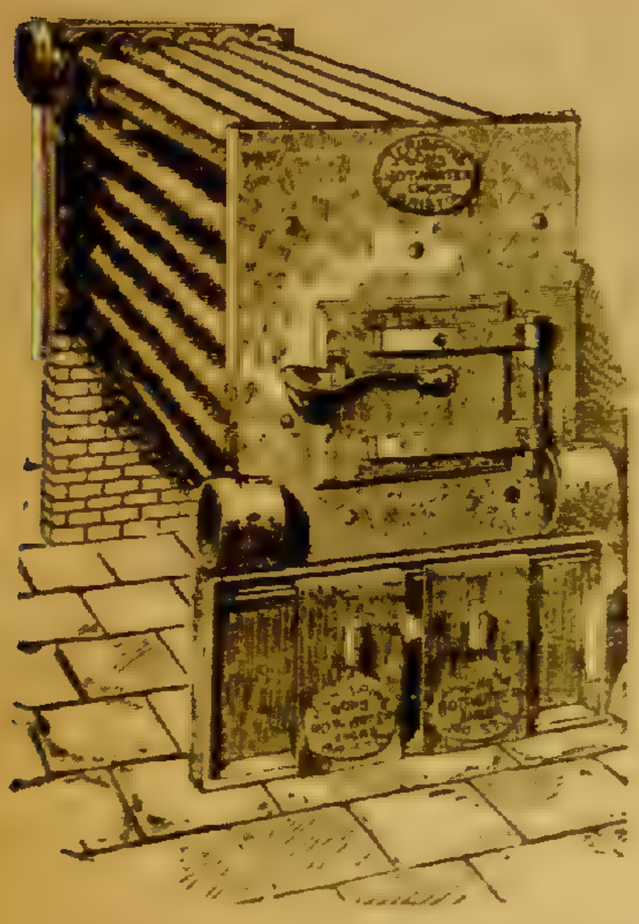

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VOL. VI.] AUGUST, 1898. [No. 68.

THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. VI.] *AUGUST*, 1898. [No. 68.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, during August, on the 9th and 23rd respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock, noon.

The August meetings of the Manchester and North of England Orchid Society will be held on the 11th and 25th. The Orchid Committee meets at noon, and the exhibits are open to inspection from 1 o'clock until 4.

A very striking form of Cattleya Mossiæ has flowered in the collection of W. H. Almond, Esq., of Alum Scar, near Blackburn, in which the lip is bright rose-purple throughout, all trace of yellow having vanished from the disc. The sepals and petals are of a lighter shade of rose, and this colour extends right along the ovary and pedicel. It flowered out of an importation of C. Mossiæ, and has all the character of this species. We do not find anything quite identical, and should like to know if it keeps constant another season.

Flowers of several handsome hybrids are sent from the establishment of Messrs. James Veitch and Sons, including Thunia × Veitchiana superba with a spike of eight exceptionally large flowers, Epidendrum × radico-vitellinum with orange-yellow flowers, and the petals now normally developed, E. × O'Brienianum and its variety roseum, the pretty Dendrobium × rhodostoma, a fine form of Sobralia × Veitchii, and the beautiful Disa × Veitchii.

A five-flowered inflorescence of Lælio-cattleya × elegans is sent from the collection of D. B. Rappart, Esq., of Liscard, by Mr. Nicholson. The sepals and petals are light rose-purple, the strongly infolded side lobes of

the lips white, and the broad expanded front lobe brilliant amethyst, forming a beautiful contrast.

Flowers of Lælio-cattleya × Schilleriana euspatha are sent from the collections of C. N. L. Ingram, Esq., of Godalming, by Mr. Bond, and of R. H. Measures, Esq., of Streatham. The lip is nearly entire, and the bright amethyst-purple of the front lobe of the lip extends as a broad margin round the side lobes, the rest of the flower being more or less tinged with purple. It is a very striking variety.

A very fine flower of Cattleya Warscewiczii is sent from the collection of D. M. Grimsdale, Esq., of Uxbridge, rather light in colour, and the eye-like spots on the lip nearly white, passing into lemon-yellow at the inner angle. A very large form of Oncidium Papilio is also sent, which species succeeds particularly well in this collection.

A very beautiful flower of Dendrobium Phalænopsis Rothschildianum is sent by Mr. T. Rochford, Turnford Hall Nurseries, being white with the exception of a few radiating pink nerves on the lip. A fine flower of the rare Aspasia principissa is also sent, which latter was imported with Cattleya Mendelii.

ONCIDIUM JAMIESONI.

ALTHOUGH described nearly half-a-century ago by Lindley (*Part. Fl, Gard.*, i., p. 104), this graceful and pretty species has been a long time practically unknown in gardens. It was, however, exhibited at the Drill Hall on July 12th last by Sir Trevor Lawrence, under the name of O. albo-verrucosum, and received a Botanical Certificate. It also flowered in the collection at about this period in 1895 and 1896, but was not previously identified. Reichenbach records receiving specimens from M. Ed. Klaboch in 1870 (*Gard. Chron.*, 1870, p. 680). but from the note it is doubtful whether living plants were sent ; if so nothing further appears to have been heard about them. Lindley's original specimen was sent by Jamieson, from the neighbourhood of Quito, and I have seen no other except the recent, cultivated ones. The panicle is about two feet high, rather lax, and bears a number of deep yellow flowers with one or two broad deep brown bars at the base of the petals, giving a rather striking contrast. The lip is pandurate, 10 to 11 lines broad, and bears a white, verrucose crest at the base ; while the column wings are large and clear yellow. A few of the flowers are abortive, as in O. heteranthum and several other species. Lindley placed it next to O. ampliatum, but it is more allied to the heteranthous species, and is one of the showiest of this group.

R. A. R.

DIES ORCHIDIANÆ.

SOME time ago a discussion took place on the question of the degeneration of Orchids, and since then several interesting cases have been recorded of plants which have been continuously cultivated for periods of many years, but are still as vigorous as ever. The case, recorded at page 195 of your last number, of Odontoglossum crispum continuously cultivated at Walton Grange for a period of twenty-eight years is interesting in this connection, and there are many other examples, notably of choice varieties, which have been cultivated for many years without degenerating, from which it is evident that the culture of this and the allied species is pretty well understood. It would be interesting if someone could establish such a record with some notoriously difficult subject—Dendrobium Bensonæ, for example, though others could be pointed out.

Another remarkable Odontoglossum crispum deserves to be mentioned, namely the variety called Prince of Wales, mentioned at page 220 as having received both a First-class Certificate and a Cultural Commendation. But why the plant should have taken eleven years to reach the flowering stage I am at a loss to understand, unless it came home as a young seedling. Even this does not help us much, for seedlings usually flower before they are fully developed, and are rarely seen at their best until a year or two afterwards, while the present example seems to have gone on until it was quite abnormal in development, and then suddenly produced an inflorescence of equally exceptional character. It seems to establish a record for this particular species.

I see that we have a figure of this exceptional form (*Gard. Chron.*, June 25, p. 390, fig. 145), which is interesting, because other fine forms may appear in future, and it may be necessary to compare them with the present one. But this figure does not at all agree with your report at page 220. It represents a flower measuring five inches across its broadest diameter, and only an eighth of an inch less from tip to tip of the petals; and in the text it states:—"Our illustration shows a flower of its true size, nearly 5 inches." Now I had the curiosity to measure the flowers of that plant, and I have also seen a letter from Messrs. Hugh Low & Co., written before the plant was exhibited, from which I extract the following:—"We have open a really marvellous white Odontoglossum crispum as regards its size and proportions, the individual flowers measuring $4\frac{3}{4}$ by $4\frac{1}{4}$ inches, and the labellum *totally abnormal*, $1\frac{1}{4}$ by $1\frac{3}{4}$ inches." This agrees with my own measurements, except that I did not note the length of the blade of the lip. Your report speaks of the lip as "$1\frac{3}{4}$ inches broad," but this appears to be a

misprint for 1¼ inches. It is highly important that records of this kind should be correct. Taking the measurement from tip to tip of the petals we find the illustration five-eighths of an inch too broad, and yet it professes to be "true size."

I do not suppose for one moment that the inaccuracy was intentional, and probably the Editor will feel as annoyed as I do when he finds it out, but it is none the less unfortunate on that account. I have myself been taken in by such figures, as may be seen by my remarks respecting O. crispum apiatum in an earlier volume of the *Review* (ii. pp. 99, 205, 298), and my present remarks are made solely in the interests of accuracy in such matters, and here I leave them for the present.

ARGUS.

NOTICE OF BOOK.

The Orchids of the Sikkim Himalaya. By Sir George King, K.C.S.I., and Robert Pantling. Large 4to., pp. 342, tt. 448. Calcutta: Printed at the Bengal Secretariat Press.

This fine work, which forms volume 8 of the Annals of the Royal Botanic Garden, Calcutta, has just appeared, and contains a nearly complete account of the Orchids at present known from Sikkim, with a figure of each, the only exceptions being some half-dozen species of which specimens could not be obtained for figuring, part of which are either doubtfully native or have now disappeared.

The origin of the work is thus stated by Sir George King:—"For many years Mr. Pantling had occupied his leisure by making drawings of the Orchids found on the Government Cinchona Plantation in Sikkim, where he has lived since 1882. The appearance of the parts of the *Flora of British India*, containing Sir Joseph Hooker's account of the family, gave an impetus to Mr. Pantling's studies; and when he showed his drawings to me, I most strongly urged him to continue the series until it should include one of each species found in the Cinchona Plantation and its immediate neighbourhood. The preparation of these drawings gradually worked itself into a project for the preparation of a complete Orchid Flora of the Sikkim-Himalaya, each species to be illustrated by a life-size figure of the plant, accompanied by analyses of the parts of the flower on an enlarged scale. The liberality of the Government of Bengal made it possible to publish the projected work in the *Annals of the Calcutta Garden*, and it now takes form in the present volume, which is the joint production of Mr. Pantling and myself. The drawings from which the figures were lithographed were entirely the work of Mr. Pantling, my share in the production of these plates having been confined to the supervision of the lithographers who put

them on the stone. . . . For the letter-press Mr. Pantling and myself are jointly responsible. . . . The drawings have all been put on the stone by natives of Bengal educated at the Government School of Art in Calcutta; and the colouring has, under very careful supervision on Mr. Pantling's part, been done by the sons of Nepalese coolies employed on the Government Cinchona Plantations — boys who had never, until Mr. Pantling took them in hand, been accustomed to use any implement more delicate than a hoe. Mr. Pantling's perseverance and skill in drilling these boys into accurate colourists has been a standing marvel to everybody who has seen them at work."

From an examination of the drawing and colouring of the species with which we are familiar in a living state, we can fully endorse these remarks about the accuracy of the drawings and analyses. And the fact that all were made from living plants, with a very few exceptions where the living plants sent in by the collectors from the higher regions had withered prior to their arrival at Mr. Pantling's house, increases our confidence.

The way in which some of the specimens were collected is interesting. It was believed that some novelties might be found "in the Alpine part of the country lying between the valley of the Great Rungeet and the higher snows" and therefore "a small party of trained Lepcha collectors was sent during the hot and rainy seasons of several successive years. These men were provided with a few swift coolies, by whom living plants of every species collected were quickly conveyed to Mr. Pantling, who, while the plants were still fresh, made drawings of them. As a precaution, the collectors were provided with a stock of Formaldehyd, in a weak solution of which they were instructed to preserve inflorescences of every species collected." In this excellent preserving medium the shape of the flowers is retained, and for a considerable time the colours also, and it is in the exact coloration only of flowers of a few of the Alpine species thus preserved that a few departures from accuracy are suggested as possible.

It may be added that in half the edition of three hundred copies, the lithographs are lightly printed, and partly coloured, the rest being darker and uncoloured, and that the volume is in four parts which could conveniently be bound separately, each having a title page and index. At the lowest estimate it will make two stout volumes. In a few cases two species appear on the same plate, and thus the species may be estimated at just over 450, which are arranged in 91 genera. The descriptions are accompanied with analytical keys, and some modifications are suggested in the arrangement into which we need not enter. The work is dedicated to Sir Joseph D. Hooker, "as a cordial token of admiration and respect," and we congratulate the authors on the completion of so excellent a monograph.

DISA GRANDIFLORA WITH BRANCHED SPIKES?

SOME time ago we were asked a question as to the occurrence of branching spikes in Disa grandiflora, and could only say that, although *figures* of such had appeared, we had never seen plants in this condition. We have since discovered that a discussion on the question took place some years ago, part of which it seems desirable to reproduce, with the hope of settling the doubtful point.

Speaking of "Orchidaceous exaggerations," Prof. Reichenbach once remarked:—"I remember having seen somewhere a drawing of Disa grandiflora with a branched inflorescence. Now, if such a thing had really happened, which I scarcely believe, it should not have been represented, except as an anomaly."—(*Gard. Chron.*, 1866, p. 197.)

To this Mr. W. H. Fitch replied:—"I have been informed that branching spikes of Disa grandiflora are not uncommon; and in a drawing I made for Mr. Robert Warner's Orchid work, I ventured to introduce a stem with two flowers (*sic*) on, and had my veracity doubted. I think it a pity that such abnormal spikes should not be preserved or forwarded to botanists for their enlightenment; it would be but a courteous acknowledgment of their services, and relieve artists from many derogatory insinuations."—(*Gard. Chron.*, 1866, p. 244.)

This, naturally enough, led to further remarks by Prof. Reichenbach:—"Concerning Disa grandiflora, I believe I am sufficiently experienced to be allowed to express some doubts as to certain representations. I will not allude to the hundreds of dried specimens that have passed through my hands during more than a quarter-of-a-century, but I should like to say that near Hamburg both Mr. Kramer and Mr. Schmidt grow the plant with the highest success. Mr. Kramer, in the garden of Senator Jenisch (the same who was formerly suspected to feed his plants with wonderful and mysterious philtres) has not many specimens, but he sometimes produces seven-flowered spikes, and these are unbranched. At Mr. Schiller's you can see every year as many as forty very large pots, each containing a good number of plants. When flowering, they all stand under the verandah, displaying masses of flowers as scarlet as an English soldier's jacket, provided it be new. Now I have never seen among them any branched spike, though Mr. Schmidt in growing Disas is beyond all praise. . . . . After so much experience, I should hope not to be accused of being 'hardly fair' when alluding to a branched Disa as to something one would like to see before believing in it. Wishing to avoid any personalities, I did not even name the place where the plant is figured, and where (plate 36) everyone who has eyes may read, 'J. Andrews, del. et lith.,' and the 'J. A.' are added between the two parts of the

plants. In the letter-press I could never find any allusion to a panicled inflorescence, the more since it is thus described—'and terminating in a loose open spike of several showy flowers.' Now imagine my stupefaction when reading that our excellent 'W. H. F.' claims for himself the advantage of having represented the now famous panicled Disa! Is 'J. Andrews' an alias of 'W. H. F.'? Perhaps—it overpowers my mind: Je n'y vois que du feu" (*l.c.*, pp. 340, 341).

Mr. Fitch finally replied:—"I congratulate the facetious Professor on the remarkable discovery that the plate of the branched Disa grandiflora in Mr. Warner's work was not one of the perpetrations of W. H. F., who ventured, perhaps rashly, to express his belief therein. . . . . Far be it from me to defend branched spikes; the plants that indulge in such abnormal freaks can have little respect for their characters. As the Professor informs us, they do not occur abroad, it may be that they have the fear of the law before them; but this is a free country, and at the risk of throwing M. Rchb. f. into an agony of doubt, it is my painful duty to inform him that Mr. R. Warner flowered the branched spike of Disa grandiflora, and that he has now growing two-flowered spikes of Cypripedium hirsutissimum, and also of Lycaste Skinneri" (*l.c.*, p. 389).

Thus, very unsatisfactorily, ends this little discussion, for, in spite of the final flourish, we have Mr. Fitch's own testimony that he had never seen such a plant. He merely "ventured to introduce," &c. (the "two flowers" evidently means *two branches*), because he had been "informed," &c. Whether Mr. Warner was his informant does not appear, but as the plant was Mr. Warner's, it is obvious that the spike from which the drawing was made was not branched. We shall be glad if any of our readers can forward such a specimen, or give satisfactory evidence of having seen one; for until then we entertain a healthy scepticism in the matter, though by no means denying the possibility of the occurrence of such a specimen under exceptional conditions. Branching in the Ophrydeæ is only known in abnormal specimens.

CYPRIPEDIUM × GODEFROYÆ.

For a considerable time an idea has been gaining ground that Cypripedium Godefroyæ is a natural hybrid, and long before Mr. Chapman contributed a note on the subject to these pages (vol. v., p. 75), I had examined the question, though the evidence obtained did not seem quite conclusive. Now, however,I have been able to examine two very interesting artificial hybrids from the collection of H. Druce, Esq., of St. John's Wood, which throw further light on the question, hence the following notes.

Cypripedium Godefroyæ first flowered in Europe in 1883, the plants

having been received from an Englishman named Alabaster, who had obtained them from the cliff of a limestone island, near the Bird's Nest Islands of Champon, in Siam, where it was originally found by Murton some years previously. Other importations from Siam are recorded, whether from the same locality or not I am unable to say. There is also a plant which flowered with M. J. Garden, of Paris, about the year 1888, to which the name C. Gardenianum was applied, which seems identical with the preceding, and this, M. Garden states, was received from Cochin China. More recently the form known as C. Godefroyæ leucochilum has appeared, but I do not find any record of the locality, though I have heard of two or more of the allied species being found in the same importation, and there is other evidence of these forms growing intermixed. For example, C. concolor is recorded to have been sent from the Bird's Nest Islands of Champon, whence C. Godefroyæ originally came, and Mr. Ridley remarks that, just outside the boundary of the Malay Peninsula, in Siam, "grow . . . C. bellatulum and its variety Godefroyæ" (*Journ. Linn. Soc.*, xxxii., pp. 415, 416), while Mr. Bull states that he has received C. niveum from the west coast of Siam (*see Bot. Mag.* t. 5922).

An examination of all the facts which I have been able to obtain seems to suggest that C. bellatulum, concolor and niveum are three quite distinct species, which occur locally, and for the most part separately, but that round the Gulf of Siam there are localities where two or more species grow intermixed, and that here hybrids occur, which are known collectively under the name of C. Godefroyæ. This has always been rare as compared with the others, and its variability has been noticed almost from the outset.

Now comes the question how far the hybrids which have been raised artificially afford any confirmatory evidence. Between the three species just named, three combinations are possible, and two of these have been raised, namely C. bellatulum with both C. niveum and concolor, but I do not find a record of any cross between the two latter.

The hybrid between C. bellatulum and niveum was raised in the collection of C. Winn, Esq., of Birmingham, and flowered in 1893, when it received the name of C. × Psyche (*Orch. Rev.*, i. p. 223; ii, p. 262). It was described as to all outward appearances a white-lipped form of C. Godefroyæ —probably C. G. leucochilum, only purer. One called C. × Mrs. Herbert Druce was raised in the collection of H. Druce, Esq., from "C. niveum × bellatulum" (possibly the reversed cross), and first flowered in 1897. It has the shape and undulate petals of C. Godefroyæ, and a white ground covered all over with numerous small purple dots, even including the lip.

The hybrid between C. bellatulum and concolor was raised in the collection of Sir Charles Strickland, Bart., Hildenley, Malton, and flowered in 1895 (*Orch. Rev.* iii, p. 187), and it was one of these seedlings which

Mr. Chapman identified as a fine C. Godefroyæ. Hybrids from the same two species have also been exhibited by Mr. A. J. Keeling, of Sheffield (*Orch. Rev.*, iv, p. 222), and T. Statter, Esq., of Whitefield (*l. c.*, v, p. 169), the latter under the name of C. × conco-bellatulum. Whether raised by them I do not know. The one from the collection of H. Druce, Esq., was raised from "C. concolor × bellatulum," and called C. × Walkerianum. It has a cream-yellow ground, covered with medium-sized purple-brown spots and blotches, those along the centre of the petals and dorsal sepal being so closely arranged as to form a nearly continuous line. The petals are also less undulate than in the other hybrid.

The forms included under C. Godefroyæ are certainly very variable, and, comparing them with the hybrids of known parentage, it is clear that some are most like the first named hybrid, while others approach the second; from which it would appear that both occur in a wild state. The form of C. Godefroyæ leucochilum, figured in this work (vol. ii, p. 145, fig. 16), is most like the former, but has larger spots on the dorsal sepal. And other forms have larger spots or blotches on the petals. Some forms have not only a white lip, but a nearly white ground colour, small spots, and a peduncle longer than in either bellatulum or concolor, and these it seems probable have C. niveum for one parent. The unspotted lip is an immaterial point, for the one mentioned above has a spotted lip, and the bellatulum spots would naturally be reproduced in some of the hybrids, so that it seems possible that the original C. Godefroyæ may have this parentage. Other forms, however, have the yellow colour and short peduncles suggestive of C. concolor, and most resemble the second hybrid mentioned. In both, the increased size of the flower, and the spots or blotches, appear to come from C. bellatulum.

From the above facts it seems highly probable that C. Godefroyæ owes its origin to intercrossing by insect agency, but how far both the crosses mentioned above are concerned in the matter can hardly be settled at present. It would be interesting to record any further facts which bear upon the question, and also to know what the hybrid between C. concolor and niveum is like, though I do not think it would be comparable with any form of C. Godefroyæ.

R. A. Rolfe.

CULTURE OF BOLLEAS.

In our second volume some cultural notes on Bollea, Pescatorea, and allied genera were given (pp. 14, 277, and 340), and it was shown that these plants are not difficult to grow if their requirements are properly attended to. The following notes by Schomburgk on Bollea violacea are

interesting, as showing the conditions under which it grows in a wild state. We are not aware that it is now in cultivation, but plants were sent by Schomburgk to Messrs. Loddiges, of Hackney, who flowered them, and the species was figured by Lindley, in his *Sertum Orchidaceum* (t. 26), under the name of Huntleya violacea. It also flowered in the collection of G. Barker, Esq., of Springfield, though it soon afterwards seems to have disappeared.

It was discovered for the first time in October, 1837, by Schomburgk, on his ascent of the river Essequibo, in British Guiana. On reaching the large cataract Cumaka toto, or Silk Cotton Fall, it became necessary to unload the coracles and transport the luggage overland, and, while the Indians were thus occupied, Schomburgk wandered about one of the small islands whose vegetation "had that peculiar lively appearance which is so characteristic in the vicinity of cataracts, where a humid cloud, the effect of the spray, always hovers round them." He was attracted by a number of Oncidium altissimum in flower, which covered a rocky pile, and then discovered another Orchid, which clothed the tree trunks with vivid green, and it was not long before he found one in flower. "It was as singular as it was new to me," he observes. "The sepals and petals of a rich purple and velvet-like appearance; the helmet, to which form the column bore the nearest resemblance, of the same colour; the labellum striated with yellow."

"In the sequel of my expeditions, I found it generally in the vicinity of cataracts, where a humid vapour is constantly suspended, and where the rays of the sun are scarcely admitted through the canopy of foliage. I traced the Huntleya from the sixth parallel of latitude to the shady mountains of the Acari chain, near the equator; but in its fullest splendour it appeared at one of the small islands among the Christmas cataracts in the river Berbice; and there is a melancholy circumstance connected with the plant, which its appearance never fails to recall to my memory. Their singular beauty at this spot induced my friend Mr. Reiss, who accompanied me as a volunteer during the unfortunate expedition up the river Berbice, to draw and paint it on the spot. He was yet occupied with this task when the last of our canoes was to descend the dangerous cataract. He arose from his occupation, desirous to descend with the Indians in the canoe, although against my wish, but he persisted. The canoe approached the fall—it upset—and, of thirteen persons who were in it at the time, he was the only one who paid the rash attempt with his life. He is now buried opposite that island, the richest vegetable productions of which it was his last occupation to imitate on paper and in colours. . . . A humid atmosphere and shade are the distinguishing features of their habitat."—Schomb. in *Lindl. Sert. Orch.*, t. 26.

ORCHID CULTURE IN BELGIUM.

(*Continued from page 208.*)

A DAY at Brussels afforded an opportunity of inspecting several interesting collections at the Capital, though we were unable to make a second visit to Laeken, and thus missed seeing the Orchids there.

At the Brussels Botanic Garden we found a very representative collection, including many rare botanical species in addition to the commoner showy ones, but our notes are limited to a few of the specially interesting forms. Ansellia congoensis we only remember to have seen once before in a living state, but here were two plants bearing four spikes of flowers, and also four capsules. It is rather smaller than its allies, but very similar in general character. There was also a fine plant of Moorea irrorata, one of the very few known, but not in flower. A fine specimen of Cœlogyne Huettneriana (sometimes known as C. elegans), three feet through, was flowering very freely. The handsome Nanodes Medusæ, and Scuticaria Hadwenii, with six flowers, are among our notes, together with the rare Maxillaria Houtteana, and the yellow form of M. variabilis flowering very freely. Many other species were in flower, and the collection generally was in thriving condition. Of those not in flower several interesting ones were observed, and we regretted that more time was not at our disposal to enable us to go through them more carefully.

Passing on to Messrs. Linden's establishment, L'Horticulture Internationale, at the Parc Leopold, we found many features of interest, aud a wealth of Orchids in flower and bud. The houses are admirably arranged on either side of a large central corridor, so that one may visit the whole series without passing into the open air, an arrangement which possesses many advantages. The arrangements for heating, ventilating, and shading the houses are also excellent, and the cleanliness and order were noticeable everywhere. The stock of Cattleyas was large and very healthy, some good forms being in flower, and among recent arrivals we noticed fine batches of C. labiata and Lælia tenebrosa. The Odontoglossums filled several houses, and were a particularly well-grown lot containing most of the typical kinds, a large proportion being in bud and many in flower. O. cirrhosum presented quite a forest of spikes. One fine clump of O. crispum we observed to be throwing up eleven spikes. One plant of O. Hallii bore a spike of twenty-two fine flowers. A small-flowered species, said to have been imported with O. luteopurpureum and triumphans, we do not remember to have seen before. Some plants of O. crispum and of Oncidium crispum, had been potted in pure leaf mould as an experiment, and appeared perfectly healthy, though it was too early to pronounce an opinion on the result. Some plants of

Cochlioda Nœtzliana and vulcanica were, as usual, very effective. A large batch of Miltonia vexillaria, in robust health, promised a fine show, being crowded with flower-spikes. A good batch of Lælia pumila præstans was also noted, and Cymbidium Lowianum concolor with a good spike of flowers.

Cypripediums, of course, were well represented, and in variety, and here we noted some fine flowers of Selenipedium × Schrœderæ, and a batch of fifty nicely flowered plants of Cœlogyne flaccida in hanging baskets. Many plants of Vanda tricolor were in flower, a bank at the end of one of the houses being very effective. A nice batch of Phaius Humblotii was observed; also a fine plant of Sobralia Lindeni, and some flowering examples of the pretty little Leptotes bicolor. It is impossible in a short note to give anything like a complete account of the Orchids seen, and before our inspection was completed, a telephonic message from M. L. Linden invited us to proceed to Moortebeek at once, so that part of the nursery was not visited. But, before leaving, we had seen much to interest us in this large and well-arranged establishment.

Moortebeek lies some four miles west of Brussels, and may be reached by tram, but, time being limited, we preferred to take the journey by cab. The route is pleasant but somewhat hilly, and, on arrival, we found that the nursery is situated right in the country, and the surroundings as favourable for Orchid culture as one could wish. The Orchid houses consist of a long central corridor, with seven span-roofed divisions, extending at right angles, on either side. Each of these groups of seven houses were connected in the usual Belgian fashion, the span between each division only descending to within about four feet from the floor, without side divisions, and thus one could see the plants right through from one end to the other. This house contained a collection of fifty-three thousand Odontoglossums, in the healthiest possible condition, and bearing quite a forest of spikes. Many of the plants are only semi-established, and the older ones are from importations received since the houses were built two years ago.

On entering the establishment, we were confronted with a fine bank of Miltonia vexillaria, flowering profusely, one splendid specimen bearing six racemes of very deeply coloured flowers, and the lip, which was carefully measured, $2\frac{7}{8}$ inches in diameter. In the centre was a large-flowered Cymbidium Lowianum with a very richly coloured lip. Passing on to the Odontoglossums, we found O. crispum literally in thousands, a good number being already in flower, showing a wide range of variation, many of the forms being excellent both in shape and colour. One plant particularly attracted attention, because its leaves were variegated with irregular white stripes. Specially interesting was it to see the various hybrids flowering

out of this large importation. These included a series of O. × Andersonianum forms—one plant of the variety Ruckerianum bearing a large panicle of very richly-coloured flowers—and a still more brilliant lot of O. × Wilckeanum, both with white and yellow grounds, and varying greatly in the amount of spotting, one beautiful deep yellow form, called Princess des Canaries, bearing a spike of sixteen flowers with very long segments, being almost unspotted. Another appeared among crispums from another locality, and is clearly intermediate between that and O. Hunnewellianum. This is called O. × Adrianæ, and several plants were in flower, all somewhat different. O. cirrhosum and Pescatorei showed quite a forest of spikes, some of the latter being in flower, one of them bearing a fine panicle with thirteen side branches and an aggregate of sixty flowers. A batch of O. gloriosum was also noted.

The houses on the other side of the corridor were devoted to a variety of things, and we noted fine batches of various Cattleyas, Cœlogyne cristata, Dendrobium nobile, Cypripedium Lawrenceanum, showing the greatest vigour in both foliage and flowers, C. hirsutissimum, and a large miscellaneous collection of the latter genus, both species and hybrids. In flower were the handsome C. × Lebaudyanum, derived from C. Haynaldianum and C. Stonei, bearing a spike of four flowers, particularly fine forms of C. Argus and Rothschildianum, some good Cattleya Mendelii, a very fine Lælia pumila præstans, some beautifully-flowered plants of Trichopilia suavis, and others too numerous to particularise.

We inspected the boilers, which are horizontal tubulars; the arrangements for shading and ventilating the houses; the water tanks running throughout the length of each alternate house, so that water can be reached from each; the open stages; and, in answer to enquiry, M. Linden assured us that no manure whatever had been used. In fact, there was nothing unusual in the treatment, though everything was particularly well-arranged for the provision of a suitable atmosphere and its constant circulation throughout the range of houses. M. Linden, however, considers the water of the district and the situation generally, particularly favourable to Orchids. Indeed, it was through noticing how well Odontoglossums grew in the house of an amateur friend there that induced him to secure the lease of some land opposite, on which to erect this establishment; and, so far as cultural success is concerned, no better results could possibly be desired within so short a period. And concerning Odontoglossums particularly, we may remark that the sight of such an enormous collection, and so well cultivated, was one to be long remembered.

Before leaving Brussels we must briefly allude to the establishment of M. Peeters, of St. Gilles. Here was a fine collection of Miltonia vexillaria in fine condition, some being in flower, though the majority were still in

bud. Odontoglossums were also numerous and well grown, comprising most of the well-known kinds, some of them in quantity, and a goodly number already in flower. Among miscellaneous Orchids, we must not forget to mention two good plants of the new and remarkable Eulophiella Peetersiana, of course not in flower, or we might have previously met with them at Ghent with the premier group exhibited by M. Peeters, which latter gives an excellent idea of the kind of culture carried on here. And the seedlings must not be forgotten, the Cattleyas being a particularly interesting lot, containing hundreds of plants in all stages; some of which we shall expect to hear of again as they reach the flowering stage.

(To be continued.)

GYMNADENIA × CONOPSEO-ALBIDA.

(A NEW BRITISH ORCHID.)

ANOTHER very interesting addition to the British Orchid-flora has just come to light. A note by C. Wolley Dod, in the *Gardeners' Chronicle* for July 23rd (p. 61), states that about the end of June, a friend, on a visit in the Highlands, sent him for identification an Orchis which he found near Arisaig, in Inverness-shire, which he recognised as resembling Habenaria conopsea, but differing from it, especially in the spur, which was much shorter. Not knowing it, he sent it to his son, Capt. Wolley Dod, who is well up in the native flora. It was new to him, though he doubtfully, and from description only, referred it to H. odoratissima; a native of the mountains of France and Germany; he also asked if more specimens could be obtained. With some difficulty, as the flowering season was then over, two more were found. These were brought by Capt. Wolley Dod to Kew (where one is now preserved), and a comparison with authentic specimens soon showed that they did not belong to H. (or really Gymnadenia) odoratissima. He had also suspected that the plant might be a natural hybrid between Gymnadenia conopsea and G. albida, as it was found associated with these two species and Orchis maculata, and he left me to work the question out.

These two species are very dissimilar, G. albida has white flowers, an equally triscuspidate lip, and a short, swollen and obtuse spur, not equalling the lip; while G. conopsea has rose-purple flowers, an unequally trilobed lip, and a filiform, acute spur many times longer than the lip. The hybrid—for such it evidently is—has rose-purple flowers, but the spur is stout, and only twice as long as the lip, which latter organ is about intermediate in shape; the leaves also are intermediate in shape, but the spike closely resembles that of G. albida. Such a hybrid has already

been recorded by Hegelmaier, in 1864, under the name of Gymnadenia conopsea × albida (*Œstr. Bot. Zeitschr.*, 1864, pp. 102-104), and by Kerner, a year later, as G. × Schweinfurthii (*Verhandl. Zool.-Bot. Gesellsch. in Wien*, xv., p. 213, t. 5, fig. 15-16). It was found by Dr. Hegelmaier, in July, 1863, in the Austrian Alps, and the Scotch plant is evidently substantially identical. The discovery is very interesting, and it seems probable that it might be found in other localities, where the two species occur intermixed, if searched for. The Scotch locality is described as within half-a-mile of the sea, and not more than 100 feet above it.

R. A. Rolfe.

ORCHIDS IN SEASON.

August is still a dull month in the Orchid houses, and, although various plants flower during the summer, there is not such a display as can be so easily obtained during the early spring and autumn. In the selection of a general collection, attention ought to be given to the choice of species, so as to obtain a constant succession of flowers, and it is always interesting to observe which are the most free blooming at certain times of the year. Some classes of plants, which remain in bloom for a considerable length of time, are very useful at this season.

The Cool department still possesses a few flowers, and among them the beautiful Disas stand first in decorative value, and those who had the pleasure of seeing D. grandiflora, racemosa and tripetaloïdes, and by their side D. × Veitchii, × kewensis, × langleyensis, and × Premier, will have an idea of the field covered by hybridization. A few late Odontoglossums are still in flower, as well as Masdevallias, and also the pretty Cœlogyne nervosa. Amongst the cool Orchids now showing are Odontoglossum Uroskinneri, Masdevallia × Laucheana, × Gairiana and × Measuresiana, also the handsome Spathoglottis Fortunei.

The Intermediate house has really the best show at this season, and amongst the plants which are at present in flower we could mention the beautiful Cattleya Eldorado, Warscewiczii, Rex, velutina and several others. The handsome Oncidium crispum, curtum and Gardneri, together with Cœlogyne Massangeana and ocellata are all valuable plants, which, when well grown, bloom twice a year. Epidendrum fragrans is also very pretty and floriferous, and amongst the most promising varieties for the forthcoming month are the well known Cochlioda vulcanica grandiflora and sanguinea, which are remarkable for their pretty colour. Some Epidendrums are also showing, as E. inversum, cinnabarinum, and xanthinum. Now also is the time for the wonderful Houlletia Brocklehurstiana to flower, but it is known as a rather difficult species to bloom. Bifrenaria aurantiaca and Cirrhæa virida purpurea are also sending forth their spikes.

A few Cattleyas belonging to the long bulbed section are showing their buds, chiefly C. Loddigesii and C. Leopoldi, which require to be kept dry until the buds are perfectly formed. If this is not observed, the plants will soon start into growth, which will be found to be very detrimental to the flowers. Some Lælias are also showing, as the old L. crispa and its variety delicatissima. Certain Oncidiums are now beginning to send forth their strong spikes, as O. Geertianum, varicosum Rogersii, spilopterum, and Schillerianum, which are all very ornamental species. A few Stanhopeas are showing their curious blooms, S. Haseloviana and Wardii being two very handsome species. Miltonias are still in season, being represented by the handsome M. spectabilis, and its varieties bicolor, Moreliana and virginalis. The free-blooming Stenoglottis longifolia and the spotted-leaved S. fimbriata are now in flower, and are exceedingly attractive. Trichopilia coccinea and some of its varieties are also very effective, as is also Zygopetalum brachypetalum when well grown. The beautiful Vanda cœrulea and Kimballiana, are beginning to show their spikes.

In the Warm house a few summer-flowering plants are in flower, as Galeandra Batemanii, the handsome Sobralia × Amesiæ, Oncidiums Papilio and Kramerianum, also Cypripediums Parishii and a few others are in bud, while C. × Adonis and × œnanthum superbum, Angrœcum arcuatum, articulatum, and Chailluanum are all showing, together with the splendid Arachnanthe Cathcartii. The season for Catasetums is now drawing near, and C. Bungerothii, fimbriatum, macrocarpum and Russelianum are all promising for the following month. Cattleya superba is opening its handsome blooms, and Dendrobium pulchellum, better known as D. Dalhousieanum, keeps producing its showy racemes. Amongst others are Aërides Lawrenceum, Phalænopsis Esmeralda and Buyssoniana, and Saccolabium multiflorum, all of which deserve a place in every collection.

ODONTO.

ONCIDIUM BIFOLIUM HARDY AT GENOA.

PROF. PENZIG, of the University of Genoa, N. Italy, has sent to Kew specimens of this pretty little Oncidium, which, he says, has been grown on trees there in the open air for a period of six years. The specimens seem perfectly healthy, but are rather dwarfer than native ones, and fewer flowered. It is a native of Monte Video, in a latitude about corresponding with Tunis, some ten degrees south of Genoa, and on the opposite side of the Mediterranean. Other cool growing species might be tried in Mediterranean localities, where perhaps the drier atmosphere, rather than the cold in winter, would be the chief obstacle to success.

R. A. R.

HYBRID DISAS.

THE history of the various hybrid Disas, which have proved such welcome additions to the list of summer-flowering Orchids, has already appeared in these pages, and now we are able to give an illustration of the group, and two out of the three original species from which they were derived. D. racemosa is omitted, because a flowering example was not available

Fig. 8. DISA × PREMIER. 9. D. GRANDIFLORA. 10. D. × KEWENSIS.
,, 11. D. × LANGLEYENSIS. 12. D. × VEITCHII. 13. D. TRIPETALOIDES.

The photograph was taken by Mr. A. Griessen, now in charge of the Orchid houses at Kew, and represents the plants on a considerably reduced scale, as will be apparent from the figure of the well-known D. grandiflora. It may also be remarked that D. tripetaloides was nearly over, the lower

flowers having been removed, and that the hybrids are, for some reason, not as vigorous as last year. The group, however, is a most interesting one, and shows the relation of the different forms to each other in a very graphic manner.

The three parent species are all natives of South Africa, the brilliant scarlet flowers of D. grandiflora (fig. 9) being too familiar to need description. D. tripetaloides (fig. 13) has white flowers prettily spotted with rose-pink inside the dorsal sepal. D. racemosa has brilliant rose-purple flowers, larger than those of D. × langleyensis, and much like it in general shape, except that the lateral sepals are more spreading and the spur of the dorsal one shorter and more obtuse.

D. × Veitchii (fig. 12), the first of the series, was raised in the establishment of Messrs. James Veitch and Sons, by Mr. Seden, and flowered for the first time in June, 1891, when it received a First-class Certificate from the Royal Horticultural Society. Its parents are D. racemosa ♀ and D. grandiflora ♂, and it most resembles the former both in shape and colour. The first seedling reached the flowering stage twenty-one months after the seed was sown. It has since been raised by Messrs. James Backhouse and Son, of York (*Orch. Rev.* i., pp. 194, 323).

D. × kewensis (fig. 10) was raised at Kew, by Mr. Watson, and first flowered in May, 1893. It was obtained by crossing D. grandiflora with the pollen of D. tripetaloides, whose characters it well combines. In shape it most resembles the pollen parent, but the colour is rose-pink, of a lighter shade on the dorsal sepal, which bears numerous darker red spots inside, the latter character also being derived from the pollen parent. The first plant flowered within eighteen months from the time the seed was sown, and thus established a record (*Orch. Rev.* i. pp. 193, 212).

D. × langleyensis (fig. 11) was raised both by Messrs. James Veitch and Sons and at Kew, at about the same time, in each case seedlings being obtained both from D. racemosa crossed with the pollen of D. tripetaloides and from the reverse cross. It first flowered in May, 1894, in both the establishments mentioned, and Messrs. Veitch's plant received an Award of Merit from the Royal Horticultural Society. The flowers are fairly intermediate in shape, but most resemble D. racemosa in its rose-purple colour. A few of the lighter forms, however, show a trace of the spotting of D. tripetaloides (*Orch. Rev.*, ii., pp. 186, 202, 203).

D. × Premier (fig. 8) was raised at Kew from D. tripetaloides ♀ and D. × Veitchii ♂, and received a First-class Certificate from the Royal Horticultural Society in October, 1893, on the occasion of its first flowering. The flowers are rather larger than those of D. racemosa, and of a rich rose-purple. Thus the influence of D. tripetaloides is chiefly seen in the modified shape, while the combined characters of D. racemosa and D.

grandiflora are seen in the brilliant coloration (*Orch. Rev.*, i., p. 339).

There is one other secondary hybrid, namely D. × Diores (*ante*, ii., p. 239), raised by Messrs. James Veitch and Sons from D. × Veitchii ♀ and D. grandiflora ♂, and flowered in July, 1894. It much resembles a pale form of D. grandiflora, with a somewhat modified shape, but we have since learned that it is a difficult plant to grow, being too much like D. grandiflora in this respect.

These hybrid Disas are not only very beautiful but very easily cultivated, in which respect they resemble D. tripetaloides and D. racemosa, rather than D. grandiflora, which, as is well-known, does not succeed everywhere. They thrive in a mixture of rough peat, with a little silver sand, well-rotten manure and sphagnum, and should receive a liberal supply of water when growing. Indeed, they should not be allowed to become dry at any time, even when resting after flowering. They begin to grow in the winter, at which period they succeed better with intermediate than with cool treatment. A fairly equable moist climate seems the most suitable for them.

PAPHIOPEDIUM × ARIADNE AND P. × EUPHROSYNE.

(A Study in Variation.)

Some time ago, when looking through the choice collection of Orchids at Stand Hall, near Manchester—owned by that well-known Orchidist of the second generation, T. Statter, Esq.—I noticed these two distinct hybrids in flower side by side. Mr. Johnson, the able and genial grower, informed me that both varieties were raised by him from the same seed-pod, out of P. Spicerianum by P. × selligerum, the latter parent being itself a hybrid out of P. barbatum by P. philippinense. A careful examination of these two hybrids shows both to be fairly intermediate in character between their parents, but in a totally different way. The following table will show at a glance how they differ:—

	P. × Ariadne.	P. × Euphrosyne.
Leaves.	Obtuse.	Subacute.
Scape.	With many short hairs.	With few long hairs.
Upper sepal.	White flushed and lined with rose, with broad claret mid-line.	Shorter and broader: white spotted purple, with faint purple mid-line.
Lower sepal.	Broad and obtuse, with linear purple spots.	Narrow and acute, with fewer markings.
Petals.	2½ inches long, chocolate and green halves, lined with purple.	Shorter and broader, tawny green, thickly spotted purple.
Lip.	Tawny yellow, flushed deep purple.	Broader and shorter, lighter in colour.
Staminode.	White shaded purple, orange disc.	Creamy fawn shaded rose.

Both hybrids agree wholly with the parent P. Spicerianum in their one-flowered scapes, flowering during the winter months, there being apparently no trace of the 2-3 flowered summer-flowering P. × selligerum. The elongated petals of both show distinctly the influence of the grandparent P. philippinense, but there seems to be no trace of the tessellated leaves of the grandparent P. barbatum. These few notes illustrate the now well-established fact that hybrids of the second generation are much more variable than those of the first generation, and as the pedigree becomes more complex, so may we expect variation to increase.

C. C. HURST, F.L.S.

ODONTOGLOSSUM CRISPUM AT PACHO.

IN the last number of the *Orchid Review* (p. 220) it is recorded that a First-class Certificate and a Cultural Commendation were awarded by the Royal Horticultural Society to Messrs. Hugh Low and Co. for "Odontoglossum crispum Prince of Wales," which is described as a remarkable variety with "twelve bulbs of enormous size and four leads, and the plant has taken about eleven years to reach the flowering stage. It is the most robust example of the species we have ever seen."

What I have been struck with is the length of time the plant has taken to reach the flowering stage. To crispum connoisseurs this is not encouraging, notwithstanding its magnificent varieties. I have lived several years in the Pacho crispum region, and have handled scores of thousands of these plants taken fresh from the forest. Thus, from my experience, I have no hesitation in saying that so prolonged a period without flowering is incompitible with the plant in a state of nature. It is a remarkable fact that tiny crispum plants flower freely in the forest; plants so small that they could be placed in a one-inch pot. Hence the contrast between such plants and the eleven year's cultivated plant is very striking. I therefore venture to account for the disparity between the two as follows :—

O. crispum in England is cultivated under conditions of excessive humidity, the bright green plump and robust bulbs are unmistakable indications of this too genial treatment. It is true that crispums grow in the forest where the rainfall is excessive, that is, showers fall almost daily for several months at a time, and during these months the plants are almost continuously wet, although perched on the trunks and branches of trees. Subsequent to the rainy seasons, two of which occur annually, several months of brilliant cloudless skies are experienced (I have witnessed an absolute drought in the Pacho crispum region lasting four months). The crispums then suffer dreadfully, the bulbs and foliage shrink and

shrivel, and very frequently the roots themselves perish. It is then advisable to suspend collecting operations. Of course, the dry periods, two of which occur annually, are more pronounced some years than others.

Thus, the vegetative functions in the dry seasons are severely checked, and horticulturists know how advantageous it is to check continuous growth in order to incite the flowering capacity of plants. These conditions are also strikingly illustrated in tropical regions, where agriculture languishes under the baneful influence of abnormal and continuous rainfall, as compared with the matured productiveness begotten of seasonable sunshine. In this connection I may say that, as head of the Jamaica Botanical Department for many years, I had ample opportunities for arriving at practical conclusions on these points.

I may mention that I hope to be able to turn to some practical account the *modus operandi* demonstrated by the plants in their native habitat, with a view to assure the early flowering of even small plants, some thousands of which I have brought from the best Pacho region. Moreover, a glance at these small plants shows the dry broken fragments of former inflorescences still attached to a large proportion of them.

ROBERT THOMSON.

[It is interesting to know something of the conditions under which Odontoglossum crispum occurs in a wild state, in which connection we may allude to a former article from Mr. Thompson's pen (see pp. 45-48 of our last volume). Messrs. Low's plant, however, was quite exceptional in its retarded period of flowering, as in other characters, and it seems possible that it may have been a seedling plant flowering for the first time. Seedlings from the same capsule sometimes vary considerably in the time they require to reach the flowering stage. It would be interesting to know the future behaviour of Messrs. Low's plant.—ED.]

BOTANICAL ORCHIDS AT KEW.

A few more of the constant succession of botanical Orchids at Kew must be mentioned this month, some of them being extremely distinct and attractive. Unfortunately, many are not found in the every-day catalogues of our large firms, and it is probable that if some of them could be introduced, and brought into the market, other growers would pay more attention to these interesting plants.

Amongst the Cool and Intermediate kinds, one of the most charming is the pretty Japanese Angræcum falcatum with its pure, white, scented flowers. Colax viridis and Bartholina pectinata, both previously mentioned, are still in flower and seem to last month after month. A few summer-flowering species are just now opening, amongst which are the distinct Polystachyas Kirkii, odorata and luteola, which thrive very well

under intermediate treatment, the curious Bulbophyllum Sanderianum, Eria excavata, the small Paphinia rugosa, and Pleurothallis maculata, with its numerous flowers beneath the foliage, as well as Spiranthes diuretica and grandiflora, Trichopilia hymenantha, and Xylobium squalens. Very beautiful is Cynorchis grandiflora bearing no less than five blooms.

In the Warm department, a few interesting plants are also worth mentioning. The remarkable Coryanthes macrantha is a large plant bearing no less than three spikes. It is in perfect health, and ought to be the subject of a special note, for it is very rarely seen flowering in Europe. Dendrobium bicameratum and D. Macræi are in bloom, though the latter is as fugacious as a Sobralia, without its attractiveness. Trias disciflora is a very floriferous and pretty little plant, which thrives on a block. In conclusion, we must mention Cycnoches Egertonianum with its long racemes of purple flowers, C. Loddigesii and C. pentadactylon, all of which are very interesting at this period.

ODONTO.

CALENDAR OF OPERATIONS FOR AUGUST.

By H. A. BURBERRY, King's Heath, Birmingham.

FOR this month, the general growing conditions of the various departments should undergo no change to those previously advised. Endeavour to maintain such conditions as are favourable for the free and vigorous growth of the plants, and success is sure to follow. To secure the best growing conditions, it is necessary to give strict attention to the ventilation, warmth, moisture, shading, and cleanliness, not one of which can be neglected with impunity.

On the above I lay great stress, knowing well how important it is. Many of the warm and intermediate growing Orchids are absolutely starved during their growing season, the summer months, simply for the want of that liberal treatment which should then be meted out to them. Under such conditions, it is quite impossible to secure healthy free growth, which will develop in due time into large strong pseudobulbs, without which no Orchid can produce large flower spikes, and thus be seen at its best.

Yet, at the same time, it is no easy matter for a writer to lay down instructions which shall apply to every case, for glass structures vary so considerably; and this being so, the methods in dealing with them must necessarily vary too.

Theory and practice work splendidly hand-in-hand. Without the latter, however, the former, so far as Orchid growing is concerned, is of but little avail. A good practical grower has become so inured in his work that he rarely ever looks at the thermometer or hygrometer. Such things, after his years of practice, are not heeded by him. He has no difficulty whatever in securing the artificial conditions most suitable for his various houses, and

he knows in a moment, on stepping inside, whether the ideal conditions are there or not, the "smell," the "feel," is enough. The existing state of the outside weather is his sole guide to action. As the weather changes day by day, or it may be hour by hour, so does he shape his treatment. He has no hard and fast rule to follow from which it is a crime to depart. He is a close follower of Dame Nature. Call his methods "finger and thumb" if you like, but depend upon it he is the most successful cultivator.

Some few species have now completed their season's growth, and many more are fast approaching that stage. When growth is finished at this early season, it is generally advisable to remove, if possible, such plants from the house in which such a large number are still growing actively. If a department exists in which these early species can be accommodated, where they may gradually receive more light, air, and less moisture, so much the better. If not, they should be grouped together in the same compartment, giving them a position by the door or some other place so that they may have their special requirements the more easily and surely attended to. Do not withhold the water too suddenly at the root, but allow them to lapse into a dormant state slowly and gradually.

The foregoing remarks will apply to a few Cattleyas which will either have finished their growth by now or will do so some time during this month. The two principal ones are C. Gaskelliana and C. Warscewiczii (gigas), which will not only have completed their new growths, but have flowered also, and desire nothing more than to be kept quiet. Either species may be re-potted immediately after blooming—if required—or may be left over until early spring. The same remarks will also apply to C. Rex and C. Warneri.

A few Dendrobiums will also have their pseudobulbs completed, and will demand cooler and more airy conditions. Dendrobiums are more impatient in this respect than Cattleyas, as are also Thunias, Pleiones, Cœlogynes, and other East Indian mountain species. Dendrobiums and Cattleyas are apt to break a second time the same year, that is to say they start a new growth immediately from the base of the newly-formed pseudobulb. However careful one may be, a certain percentage of his plants are almost sure to do this. It need not cause the slightest alarm or annoyance. Such new growth should be allowed to remain, but simply be unheeded, giving the plants the more airy treatment, as before advised, exactly the same as if no secondary growth existed. It is a fatal mistake to still keep the plants in an active temperature in order to bring these second growths to maturity, for it is unlike their natural condition abroad.

Every Orchid enthusiast should at least try his hand at growing Disa grandiflora, as it is such a beautifully showy species when well-grown, and this month it will be making quite a brilliant show. It is not always,

however, that one can succeed in growing it well. The conditions under which Disa grandiflora thrives best are so delightfully simple and easily obtainable that its cultivation is always well worth a trial. The chief points to keep in mind are as follows:—a cool, moist frame or pit during summer, during which time they should never be allowed to become dry for the want of attention, nor burnt for the want of shade and air. About now they bloom, and, immediately the flowers are over, divisions of the roots, or re-potting, should take place when needful, employing sandy peat for this purpose. Let them still occupy their cool, moist frame or pit until the nights are too cool for them to remain longer, when they should be taken to winter in a house where the temperature averages from 40 to 50 degrees. From the time they bloom in August or September until the ensuing winter is past, but little water at the root will be required, enough only to keep them plump and healthy. Be careful to keep yellow thrip away by the use of a little tobacco powder. When once the proper treatment is rightly hit upon, Disas grow and propagate very freely, as the offshoots, which are always plentiful, may be removed from the parent tuber and potted off in small pots.

The present season is a good one for doing up the various species of the cool Orchid-house which have not yet been done. Odontoglossum Rossii and O. Cervantesii are two very pretty species, which pay to grow well, so that they bloom profusely; otherwise, with individual flowers here and there only, they are too little to make a show. Both species suffer greatly from too much meddling with at the root, and, on this account, they should hardly ever be re-potted. If re-potting is contemplated, it should be performed not later than this month, and the greatest possible care taken not to disturb or break the roots more than is necessary. If the stages are pretty near the roof glass, they grow well there in small pots, otherwise they are better in pans, and suspended. What little compost is required about their roots should be mostly all fibrous peat, which will not decay so quickly as moss. They delight in a cool, airy atmosphere, and require but little water at the roots at any time of the year. The above remarks, so far as they refer to matters of re-potting, apply also to the other chief inmates of this department, which are principally Oncidiums and Odontoglossums. Let the roots be preserved in a sound and healthy condition by sensible and discreet watering, and then but little re-potting is necessary. Of course, throughout the growing season, a good deal of moisture is indispensible about these cool Orchids, as well as the warm ones. The compost should not, however, be soddened by being water-logged, as it turns the compost sour and makes it decay, and the roots of the Orchids perish.

Cattleya citrina is just now commencing to grow. It does well either

on a raft or in small pans. When the latter are used they should be very small, just large enough to hold the base, or the roots of the plant. The new growths will then turn over the rim, taking a downward course, and will continue to grow well. Use perforated pans, so that the roots may go in and out. It is a species which requires but little water to keep in good health.

Lycaste Skinneri is now in full growth. It is discarded by some, and liked by others, and certainly some of the varieties are very chaste and delicate. If grown in the Cool house, it should not be left there too late in the autumn, but removed to the Intermediate house. Here again, root disturbance is most harmful, and need only take place at long intervals if they are potted well and watered carefully. A compost consisting chiefly of peat is the best in which to grow them. Odontoglossum grande, another good showy old species, wants very much the same kind of treatment as the foregoing. It certainly succeeds better when treated as an Intermediate house Orchid than as a Cool house one.

Phalænopsis and other inmates of the East Indian department must be kept growing actively, and not be allowed to suffer for want of moisture, which is their mainstay. If ants are troublesome in this department—and they frequently are, for these pests are particularly fond of Phalænopsis—they should be destroyed by some means. They seem to pierce the leaves so that a sweet substance exudes, upon which the ants feed, and are continually on the plants in great number. It is needless to say that the plants so attacked quickly dwindle away. They first assume a yellowish appearance round the margin of the leaves, which colour gradually spreads until the leaf ultimately falls off, and Phalænopsis without leaves are as good as dead. There are various ways and means for getting rid of ants, but the very best poison that I have ever had the pleasure of using is that which I have previously recommended, known under the name of Ballykillrain Ant Poison.

As it is most important that the plants should receive as much light and sun as they will endure without causing injury, it will be as well now to slightly reduce the summer shading wherever possible. For instance, there are often many places on the roof more or less troublesome and difficult to get at to shade with a roller blind, and in such places some kind of permanent shading has to be employed. For such purposes "Summer Cloud" or "Lime wash" is usually sufficient, and this may be reduced in density if the exposure to the weather has not already done so.

There is still a great deal of that pest known as "Cattleya Fly" about in different collections. It seems to me that nearly every importation is affected with it in a more or less degree, and this makes it necessary for every grower to be strictly on his guard. When newly-imported plants come to hand, isolate them, cut he infected parts away and wash them,

fumigate them once or twice, and after they are potted up and growing, keep an eye on them in order to detect any new growth infested, and remove it before the larvæ have a chance to mature and escape. A sharp watch should also be kept for any stray flies, for if more eggs are laid the mischief would be perpetuated.

THE WALTON GRANGE SALE.

At the sale of duplicates from the collection of W. Thompson, Esq., Walton Grange, Stone, held on May 11th and 12th last, some good prices were realised for choice varieties, among which the following may be mentioned:—Odontoglossum crispum Golden Queen (figured at page 113 of our last volume), 160 guineas; O. c. Stevensii, 110 guineas; O. c. Alfred, 24 guineas; O. c. Katæ, 20 guineas; O. sceptrum aureum, 140 guineas; O. × Ruckerianum ocellatum, 50 guineas; O. × Wilckeanum nobilor, 33 guineas; O. × Coradinei expansum, 20 guineas; O. × excellens, 20 guineas; O. × elegans, Pollett's var., 7 guineas; Cattleya labiata Peetersii, 75 guineas; C. l. cœrulea, 28 guineas; C. × Victoria-Regina (figured at p. 17 of our third volume), 44 guineas; C. Skinneri alba, 30 guineas; Cypripedium insigne Dorothy, 21 guineas (in two instances); C. Rothschildianum giganteum, 20 guineas; C. × Charles Richman, 10 guineas; Lælio-cattleya × Pallas, 12 guineas; Lælia × Gouldiana, 11 guineas; L. anceps Dawsoni, 6 guineas; Oncidium ornithorhynchum album, 10 guineas; and Epiphronitis × Veitchii, 7 guineas.

ORCHIDS AT RICHMOND HORTICULTURAL SHOW.

A NUMBER of good Orchids were exhibited on the annual show of the Richmond Horticultural Society, held on June 29th, in the Old Deer Park.

In the class for six exotic Orchids, the first prize was won by H. Little, Esq., The Barons, Twickenham (gr. Mr. Howard), for Cattleya Warneri, a splendid plant bearing four racemes and an aggregate of fourteen flowers, C. Mossiæ, C. Mendelii, C. Warscewiczii, Lælia tenebrosa, and Cypripedium superbiens. The second went to Sir Frederick Wigan, Clare Lawn, East Sheen (gr. Mr. Young), for Cattleya Mossiæ Reineckeana and two other fine forms of C. Mossiæ, Lælia tenebrosa, Aërides Fieldingii and Cypripedium Rothschildianum.

H. Little, Esq., also contributed a fine group, to which a Silver-gilt Medal was given. It contained a fine Odontoglossum citrosmum with seven racemes, Vanda teres, Thunia Marshalliana, Cypripedium Exul, Dendrobium suavissimum, Cymbidium Lowianum, Lælia tenebrosa, Cattleya Schilleriana, and other good Cattleyas.

A similar award went to Messrs. F. Sander and Co., St. Albans, whose group contained a remarkably fine form of Cattleya Warscewiczii, C. Mossiæ Reineckeana, and other good Cattleyas, Lælia tenebrosa, Phaius Humblotii, the remarkable Bulbophyllum barbigerum, whose mobile lip was a great source of interest to visitors, and a fine plant of Nanodes Medusæ bearing six flowers.

ORCHIDS AT THE HANLEY PARK FETE.

THIS young show, the second of the series organised by the Corporation of Hanley, was held on July 6th and 7th, when Orchids came out strongly, both in the special classes and in the groups of plants arranged for effect, Mr. Cypher using them generously, and also Mr. Jenkinson, of Newcastle, Staffordshire, who had some wonderfully grown plants of Phalænopsis amabilis.

The classes for collections of Orchids not to occupy more than 100 feet of space were arranged in a semi-circle, on 2-tier stages, at the bottom of the large tent.

The premier group was a fine collection, consisting principally of Odontoglossums, arranged with palms and ferns on a bank of green moss, which hid entirely the pots and stage and brought the colours up very distinctly. It contained most of the species in bloom at the present time, together with a few good Cypripediums, as C. Curtisii with ten flowers, superbiens, Rothschildianum, × Goweri superbum, and others, also some fine Cochlioda Nœtzliana, one plant bearing eleven spikes. This collection came from W. Thompson, Esq., Walton Grange, Stone (gr. Mr. Stevens).

The second prize lot came from Mr. J. Cypher, Cheltenham, and contained a very fine Odontoglossum luteopurpureum, Epidendrum prismatocarpum with twelve spikes, a splendid Dendrobium Dalhousieanum with ten spikes, together with Cattleya Mossiæ, Mendelii, Warscewiczii, Lælia purpurata, Thunia Marshalliana, &c.

Mr. J. Robson, of Altrincham, came in third, with a nice little collection.

In the class for eight Orchids, Mr. Blair, gardener to the Duke of Sutherland, Trentham, was the first, with Epidendrum vitellinum bearing twenty spikes, Masdevallia Harryana trenthamensis, M. H. Thompson's scarlet, a grand piece of Odontoglossum crispum bearing three spikes, Cattleya Mendelii, C. Gaskelliana, Miltonia vexillaria, and Oncidium macranthum. The greater portion of these were made-up plants.

Mr. J. Cypher, Cheltenham, came in a good second, his group containing a fine Oncidium macranthum, Vanda cœrulea with two spikes, Epidendrum prismatocarpum with seven spikes, Platyclinis filiformis with twenty-two spikes, and others.

In the Class for six, B. Howson, Esq., Newcastle, was a good first with Lælia purpurata bearing four spikes, Cattleya Gaskelliana, C. Mossiæ, C. Warscewiczii, C. Warneri, and a good Epidendrum prismatocarpum. J. C. Waterhouse, Esq., Prestbury, was a very good second.

Messrs. Charlesworth and Co., Bradford, had a very fine collection, not for competition, to which the judges awarded a Gold Medal. It contained a splendid plant of Cœlogyne Dayana with eight or nine spikes, the pretty Oncidium spilopterum, O. Phalænopsis, Lælio-cattleya × Iolanthe, L.-c. × Lady Wigan, Epidendrum Wallisii, and various other good Orchids.

This show bids fair to outstrip most of the others in the neighbourhood, especially in the Orchids and plant groups, and the Committee and Secretary (Mr. Kent) deserve the warmest thanks and support of the Pottery district for their enterprise, and it seemed to be appreciated by the enormous numbers that attended the show.

The Secretary, having in mind the late loss of plants at the Temple show, adopted a badge, which was distributed in the afternoon of the closing day to exhibitors and assistants, and, at the closing of the tents, only those with this badge on were allowed to stay in, the others being all turned out, and two policemen were placed at the entrance of every tent, who allowed no one to pass in or out without this emblem of authority. In addition, the tents were lit up with powerful electric lights, so that packing could be done with comfort. When will the R. H. S. do likewise?

S. S.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

A MEETING of this Society was held at the Manchester Coal Exchange on July 14th, 1898, when the following members of the committee were present:—Messrs. G. Shorland Ball (in the chair), Law-Schofield, Leemann, Greenwood, Weathers, Johnson, Holmes, and Mills (hon. secretary).

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed a very fine and well-grown plant of Cypripedium × callo-Rothschildianum, which was awarded both a First-class Certificate and a Cultural Certificate. C. × selligero-Rothschildianum (Award of Merit), and Cattleya Mossiæ Gratrix's variety (Award of Merit).

E. Stanley Clark, Esq., Wrexham (gr. Mr. Edwards), showed a fine plant of Oncidium macranthum, Cattleya superba, and Odontoglossum Pescatorei.

Gust. Kleinjung, Esq., Alderley Edge (gr. Mr. Oakes), showed a very fine plant of Odontoglossum hastilabium, which received a Cultural Certificate.

W. H. Almond, Esq., Blackburn, showed a dark Cattleya of the labiata group, very much in the way of C. Warneri.

Mrs. Briggs-Bury, Accrington (gr. Mr. Wilkinson), showed a very fine form of Lælia purpurata named Annie Louise, very much in the way of Backhouseana (Award of Merit), a good form of Cypripedium Godefroyæ leucochilum (Award of Merit), and Laelio-cattleya × Lady Wigan, the flower of which was quite gone over.

Thomas Statter, Esq., Whitefield (gr. Mr. Johnson), showed Cattleya Mendelii superba and Cattleya Warscewiczii Empress.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), showed Cypripedium Rothschildianum giganteum.

H. H. Bolton, Esq., Newchurch (gr. Mr. Eastwood), showed Cypripedium Godefroyæ leucochilum.

Mr. John Robson, Altrincham, showed an exceedingly fine Cattleya Gaskelliana magnifica, which received an Award of Merit.

At the meeting held on July 28th, the following members were present:—Messrs. G. Shorland Ball (in the chair), Law-Schofield, Greenwood, Backhouse, Robson, and Mills (hon. sec.).

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed Lælio-cattleya × Canhamiana alba (First-class Certificate), and Cypripedium × excelsior, var. Mars (Award of Merit).

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Schill), showed Cattleya Warscewiczii Schofieldiana, the flower rather small with very dark lip (First-class Certificate), Cypripedium × Alfred Hollington (Award of Merit), and C. × Clinkaberryanum.

H. Shaw, Esq., J.P., Birch Vale (gr. Mr. Cliffe), showed Cattleya Forbesii.

Messrs. J. Veitch & Sons, Chelsea, showed Lælio-cattleya × callistoglossa ignescens, a very fine cross between C. Warscewiczii Sanderiana and L. purpurata (First-class Certificate), L.-c. × Amesiana, a pretty flower, though somewhat undecided in colour (Award of Merit), L.-c. × Zephyra, Cattleya Eldorado alba, C. × Enid, and Phaius Humblotii.

Messrs. Charlesworth & Co., Bradford, showed a magnificent form of Cattleya Gaskelliana alba (First-class Certificate), and Lælio-cattleya × Adolphus, being a cross between L. cinnabarina and C. Aclandiæ.

Mr. John Robson, Altrincham, showed a very fine dark form of Cattleya granulosa Schofieldiana (Award of Merit), and Brassia Lawrenceana longissima.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

At the meeting of the Royal Horticultural Society held at the Drill Hall, James Street, Westminster, on July 12th, there was a great falling off in the number of exhibits, as is usual at this period. The members of the Orchid Committee present were as follows:—H. J. Veitch, Esq. (in the chair), and Messrs. J. O'Brien (hon. sec.), H. Ballantine, H. J. Chapman, W. Cobb, De B. Crawshay, S. Courtauld, J. Douglas, E. Hill, H. Little, H. M. Pollett, W. H. Protheroe, A. H. Smee, W. H. White, H. Williams, and W. H. Young.

J. W. Temple, Esq., Leyswood, Groombridge (gr. Mr. Bristow), staged a brilliant group of Cattleya Warscewiczii. It contained forty-three plants, bearing an aggregate of over 160 flowers, and showed a range of variation from the lightest to the darkest forms. Many of the plants were from an importation made in 1883. A Silver Flora Medal was deservedly awarded.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), showed Vanda × Miss Joaquim, with a splendid inflorescence of twelve flowers and three buds (Cultural Commendation), and Oncidium albo-verrucosum, a supposed new species, bearing an inflorescence of bright yellow flowers, with some brown bars on the sepals, and a white warted crest, some of the flowers being abortive (Botanical Certificate).

H. Hicks, Esq., Bramwood, Chelmsford (gr. Mr. Machar), showed a splendid specimen of Dendrobium Dearei, with pseudobulbs over 3 feet long, and bearing thirteen fine spikes. The largest pseudobulb bore three racemes and an aggregate of thirty-three flowers, and four spikes had previously been cut. It was stated that the plant had been in the collection for four years, and on a previous occasion had been in bloom more or less continuously from April until the following February. A Silver Banksian Medal aud a Cultural Commendation were awarded.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), sent a branched inflorescence of Odontoglossum crispum, having white flowers with a few light purple blotches in front of the lip's crest.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), sent Cattleya Warscewiczii var. Rothschildiana, a handsome form devoid of the yellow blotches on the bright purple lip.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, showed the chaste Cattleya Gaskelliana alba, and a pretty blush-tinted form of the species, also Bulbophyllum Dearei, a pretty form of Odontoglossum citrosmum having the flowers spotted with rose, Cypripedium × Alice, and C. × T. W. Bond.

Mr. W. Bull, Chelsea, showed Oncidium macranthum chelseense, a fine form having purple-tinted sepals and a purple blotch at the base of the petals.

At the meeting held on July 26th, the exhibits were again not numerous, though several choice things appeared. The members present were:—H. J. Veitch, Esq. (in the Chair), and Messrs. J. O'Brien (Hon. Sec.), H. Ballantine, T. W. Bond, H. J. Chapman, W. Cobb, N. C. Cookson, De B. Crawshay, J. T. Gabriel, H. Little, F. Mason, H. M. Pollett, F. J. Thorne, R. Young, and W. H. Young.

A magnificent plant of Odontoglossum coronarium was sent by W. G. Groves, Esq., Holehird, Windemere, to which a Silver Flora Medal was awarded. It was on a teak raft, 3ft. long by 2ft. broad, and had several leading growths, and two strong spikes with an aggregate of over fifty fine flowers.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), received an Award of Merit for a fine form of Lælio-cattleya × Schilleriana, called Cambridge Lodge variety, in which the sepals and petals were tinged with lilac, and the lip nearly entire, with a bright rose-purple front lobe.

W. C. Clark, Esq., Orleans House, Sefton Park, Liverpool, showed Cypripedium × Mrs. Walter Clark (C. × Ashburtoniæ expansum × Stonei), a fine hybrid approaching C. × Morganiæ in general character.

N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), showed the handsome Cattleya × Lord Rothschild (figured at page 337 of our fourth volume), the flowers also being very fragrant.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Cooke), showed Cattleya Gaskelliana Crawshayana, a good form, with light rose sepals and petals and a paler lip, without any of the usual darker colour on the front lobe.

G. W. Law-Schofield, Esq., New-Hall-Hey, Rawtenstall, Manchester (gr. Mr. Schill), sent a very richly coloured form of Cattleya Warscewiczii, with rather small eye-like blotches on the lip.

Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea, showed several fine hybrids, the most remarkable being Lælio-cattleya × Ingramii gigantea, with an enormous richly-coloured flower nearly eight inches across, to which a First-class Certificate was given. The others were the very showy L.-c. × callistoglossa ignescens, the old L.-c. × Amesiana, L.-c. × Lucilia (L.-c. × Schilleriana ♀ × C. Dowiana ♂), a handsome thing with white sepals and petals, having some rosy markings on the latter, and a dark brilliant purple lip, L.-c. × Zephyra, Cattleya × Enid (Mossiæ ♀ × Warscewiczii ♂), and Masdevallia × Imogene (Schlimii ♀ × Veitchana ♂), a pretty novelty, most like the former in shape and the several-flowered spike, but approaching the latter in colour. To this, an Award of Merit was given.

Messrs. Hugh Low & Co., Bush Hill Park, staged a small but very

showy group, including a well-flowered Vanda cœrulea, a handsomely spotted Odontoglossum crispum, two fine Cattleya Gaskelliana alba, and some fine examples of C. Warscewiczii and C. Mendelii.

Messrs. F. Sander & Co., St. Albans, showed Cypripedium × Orion (× C. selligerum majus ♀ × Rothschildianum ♂), a fine hybrid, intermediate in character, having cream-white arching petals with chocolate-coloured blotches.

ORCHID PORTRAITS.

ACANTHEPHIPPIUM CURTISII, Rchb. f., VAR. ALBIDUM, L. Lind.—*Lindenia*, t. 619.

CIRRHOPETALUM PICTURATUM, Lodd.—*Lindenia*, t. 622.

CŒLOGYNE SWANIANA, Rolfe.—*Bot. Mag.*, t. 7602.

CYPRIPEDIUM ROTHSCHILDIANUM, Rchb., VAR. PLATYTÆNIUM, L. Lind.—*Lindenia*, t. 623.

CYPRIPEDIUM × WINCZIANUM, L. Lind.—*Lindenia*, t. 620.

CYPRIPEDIUM × (two unnamed).—*Wien. Ill. Gart. Zeit.*, July, p. 237, t. 2. These are apparently forms of C. × Lathamianum and C. × Leeanum.

DENDROBIUM STRATIOTES.—*Journ. of Hort.*, July 28, p. 69, fig. 13.

DENDROBIUM TAURINUM, Lindl.—*Lindenia*, t. 621.

ERIA LATIBRACTEATA, Rolfe.—*Bot. Mag.*, t. 7605.

ODONTOGLOSSUM CRISPUM, Lindl., VAR. MOOREANUM, L. Lind.—*Lindenia*, t. 624.

ODONTOGLOSSUM × WILCKEANUM, Rchb. f., VAR. LINDENI, Grign.—*Lindenia*, t. 617.

PHAIUS × NORMANI, O'Br.—*Lindenia*, t. 618.

PHALÆNOPSIS × LUEDDE-VIOLACEA.—*Gard. Chron.*, July 16, p. 43, fig. 11.

STANHOPEA RODIGASIANA.—*Gard. Chron.*, July 9, pp. 31, 32, fig. 9.

WARSCEWICZELLA LINDENI.—*Journ. of Hort.*, July 21, pp. 50, 51, fig. 10. This is W. amazonica, Rchb. f.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

R. H. M. We fail to find any record of the hybrid Cattleya sent, and thus cannot state either the parentage or raiser. Correspondents would oblige by always stating briefly what they know of the origin of any new or unnamed hybrid they may send. Inattention to this point causes unnecessary trouble, and has occurred twice since our last issue.

De B. C. Flowers mentioned not yet received.

E. T., Orange. Is it quite certain that the Cypripedium is a hybrid?

Photographs received, with thanks. O. O. W., A. G.

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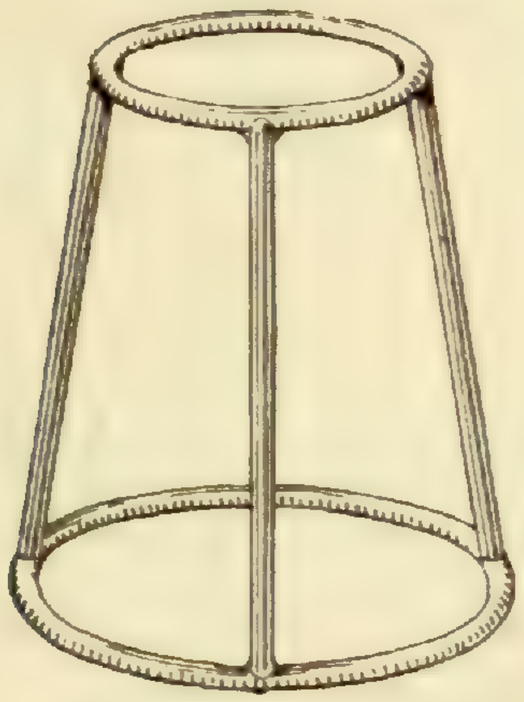

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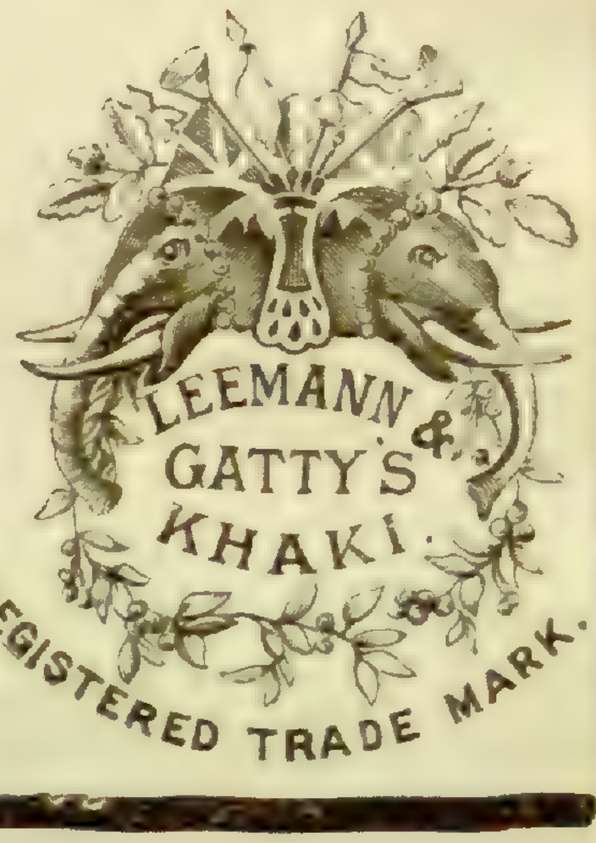

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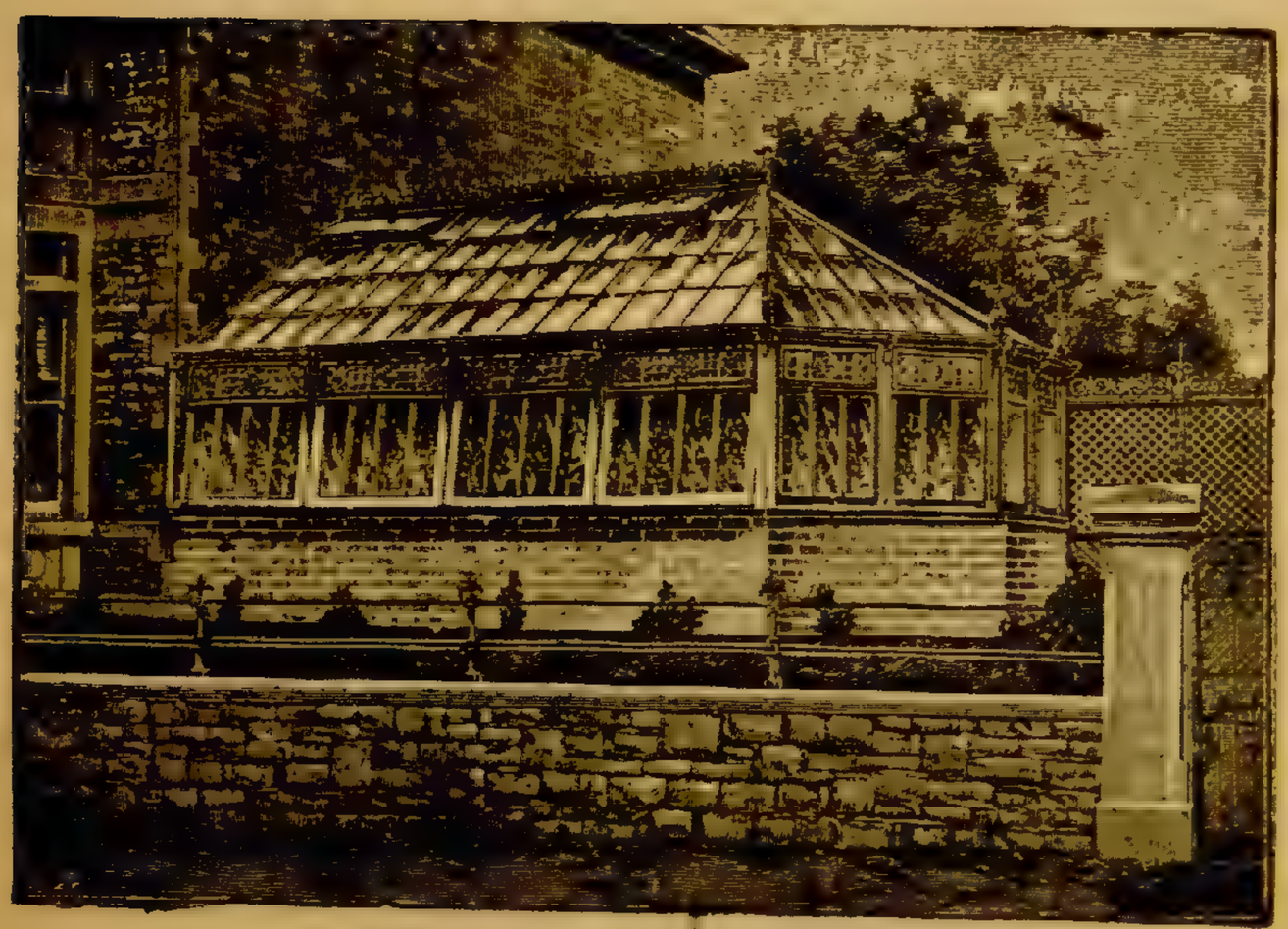

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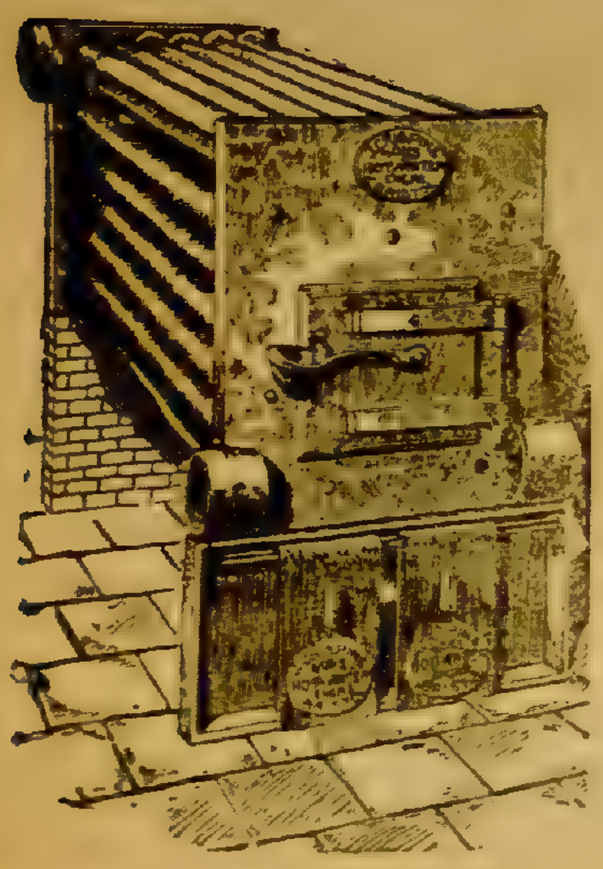

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THE

ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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VOL. VI.] *SEPTEMBER*, 1898. [No. 69.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, during September, on the 6th and 20th respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock, noon.

On the former occasion a lecture will be given by Mr. J. W. Burkinshaw, at 3 p.m., on Disas.

The September meetings of the Manchester and North of England Orchid Society will be held on the 8th and 22nd. The Orchid Committee meets at noon, and the exhibits are open to inspection after 1 o'clock.

A superb spike of Lælio-cattleya × elegans Macfarlanei bearing eight flowers is sent from the collection of R. H. Measures, Esq., The Woodlands, Streatham, by Mr. Coles. The sepals and petals are suffused with pink, irregularly flaked with rose-purple near the margins, especially on the petals; the lip strongly trilobed, the side lobes strongly infolded, dorsally flattened, and suffused with pink, and the front lobe roundish, undulate, and of a brilliant amethyst colour. It is very beautiful, and last year it bore a spike of nine flowers.

Flowers of a very fine form of Cattleya × Lord Rothschild are sent from the collection of N. C. Cookson, Esq., Oakwood, Wylam-on-Tyne, by Mr. Murray, who remarks that it is much finer than the one exhibited last

month at the Royal Horticultural Society, and from a different plant. The lip is $2\frac{1}{4}$ inches across, and the yellow blotches on either side of the throat extend nearly to the margins of the side lobes, and half-way to the apex of the front lobe, forming a splendid contrast with the crimson-purple of the latter, and the rose-pink of the sepals and petals.

Some fine flowers of the superb Disa grandiflora are sent from the collection of John S. Moss, Esq., Wintershill, Bishop's Waltham. Unfortunately, they throw no further light on the question of the occurrence of branched spikes in this species, to which attention was called at page 230.

A handsome flower of Cattleya Warscewiczii Sanderiana from the collection of F. M. Burton, Esq., Highfield, Gainsborough, has the petals 3 inches broad, and the rest of the flower correspondingly well developed, and of excellent form and colour. In two other cases flowers of this species have been sent, which were purchased as C. Dowiana aurea, but the explanation is that the two grow together, and, in some cases, are difficult to distinguish out of flower.

Abnormal flowers in the Phragmipedium group are frequently met with, and a flower of P. × Dominianum from the collection of Mrs. Hollond, Wonham, Bampton, N. Devon, is remarkable for having every part of the flower represented by a single organ. The dorsal sepal is united to the lower one, the place of the former being occupied by a single petal, opposite to which is placed the single anther.

An inflorescence of the rare and pretty Dendrobium bracteosum, with about a dozen richly coloured flowers, also comes from the same collection. It is one of the brightest forms we have seen.

A fine flower of Cypripedium × Cleopatra (C. Hookeræ ♀ × C. × œnanthum superbum ♂) is sent from the collection of Eustace F. Clark, Esq., of Teignmouth. The foliage is very handsome, and most resembles C. Hookeræ; and the peduncle, which is over twenty inches high, shows the influence of the same parent, while the flower is fairly intermediate between the two, though larger. Mr. Clark observes that it is more robust than either parent, and its foliage one of the handsomest in his collection. Its parentage is rather complex, as may be seen by an analysis at page 362 of our fourth volume.

An inflorescence of Miltonia vexillaria rubella—the small autumn-blooming form—comes from the collection of F. Hardy, Esq., of Ashton-on-Mersey, together with a flower which is similar in general character, except for a deep purple blotch on the lip, like that of M. v. Leopoldi.

The history of this late-flowering form still seems imperfectly known, though Lehmann states that it is a distinct geograghical form discovered by Wallis in 1876, and subsequently gathered by himself.

The interesting little *Dictionnaire Iconographique des Orchidées* of Messrs. Cogniaux and Goosens continues to progress, and we note in the number which last reached us the beautiful Odontoglossum crispum Franz Masereel, Lælio-cattleya × Myra, Cymbidum grandiflorum, Masdevallia Chimæra, Oncidum spilopterum, and other handsome things. The plant figured as Scuticaria Steelii, however, is S. Hadwenii, and Odontoglossum × harvengtense is certainly not a hybrid between O. crispum and O. sceptrum, bearing no resemblance to them, either in crest, column-wings, or, indeed, in any essential character. It is a variety of O. × excellens, a natural hybrid between O. Pescatorei and triumphans.

A fine flower of Masdevallia Chimæra is sent by Messrs. Charlesworth & Co., Heaton, Bradford, in which the markings are less numerous than usual, and thus the yellow ground-colour is very well developed, giving it a very distinct appearance.

It is interesting to note that Lælio-cattleya × Schilleriana has again been raised artificially. M. Ch. Maron, of Brunoy, records (*Revue Horticole*, July 16th, p. 335), having raised a hybrid between Cattleya amethystina (which is synonymous with intermedia) and Lælia purpurata. He calls it Lælio-cattleya × elegans, but it must be remembered that the so-called white forms of elegans really belong to Schilleriana, to which the present one also evidently belongs.

Flowers of a beautiful hybrid Odontoglossum are sent from the collection of Sir Frederick Wigan, Clare Lawn, East Sheen, by Mr. Young. It is said to have been purchased from Messrs. F. Sander & Co. as the reverse cross of Odontoglossum × crispo-Harryanum, exhibited at the Temple Show, and described at page 170. We should like to know its exact history, as Messrs. Sander are thought to have obtained it from the Continent, but M. Vuylsteke writes us that he cannot throw any light on the question. The sepals and petals are yellowish-white, irregularly barred and blotched with light purple, and the lip similar, with numerous small spots on the basal half.

Flowers of the handsome Cattleya × Atalanta, a very large and beautiful form of Lælio-cattleya × Ingramii, Epidendrum Medusæ, and Masdevallias torta and peristeria are also sent, together with Sobralia × Wiganiæ, the latter being one of those beautiful forms allied to S. × Veitchii which are suspected to be natural hybrids.

We learn from Mr. White that the remarkable Sobralia Cattleya is at last showing a bud in the collection of Sir Trevor Lawrence, at Burford. It is a most interesting circumstance, for the species has been cultivated in several collections for many years, but no one has previously succeeded in flowering it. The bud appears on a small side shoot near the top of one of the tallest growths.

CORYANTHES MACULATA.

A fine specimen of this remarkable Orchid has just flowered in the Nepenthes House at Kew, producing four spikes of one to three flowers each. Like those of Stanhopea, they only last but a short time, but they are very remarkable in structure, as may be seen by the figure of the variety vitrina (*Orch. Rev.*, iv., p. 305, fig. 15). The present one differs in being regularly spotted all over the sepals and petals. It was observed that the liquid began to exude from the glands at the base of the column soon after the flowers began to expand, and the drops followed each other at intervals for some considerable time. In one case the bucket was observed to be full up to the opening and a drop had trickled down the outside to the bottom. It must be an interesting sight to see these plants flowering in their native home. Mr. James Rodway, speaking of this particular species, remarks that "at seven in the morning the buds were a trifle loose, and they must have opened an hour later. At half-past eight, the bees were seen round the fully-opened flowers, and, an hour later, every pollen mass had been carried away. At the latter period, from six to eight bees were continually hovering round, crawling under the dome-like appendage above the cup, and dropping into the trap below. Their green and gold bodies flashed in the light as they buzzed round; on one of them a pair of pollen masses between the shoulders showed conspicuously against the metallic green back. . . . The problem which puzzles us most is how these bees, which we never see at other times, discovered the flowers were open. There was a perfume, but this was not very strong. No bees came in the afternoon or next day" (*Timehri*, 1893, pp. 269, 270). I also observed that the perfume was rather faint. The species was originally sent from Demerara by Mr. C. S. Parker, to the Liverpool Botanic Garden, where it flowered in June, 1831, and was figured at plate 3102 of the *Botanical Magazine*.

R. A. Rolfe.

DIES ORCHIDIANÆ.

I REGRET to learn that no information is yet to hand as to the whereabouts of M. Jules Hye's Orchids, which disappeared so mysteriously from the Temple Show. I note, however, in the *Chronique Orchidéene* for March, 1898, a short account of the matter, under the title, "Strange disappearance of Orchids," and as the date is at least two months before the event took place, it would appear that the mystery deepens.

The unfortunate event shows the necessity of some alteration in the arrangements for the safe custody of exhibits at the close of a Show, until they have been formally handed over to the parties responsible for their removal, and I think the arrangements made by the Secretary of the Hanley Park Fête, as recorded at page 252, are admirably suited to meet the case. Something of the kind ought to be arranged at the Temple Show, and other big Shows, where so many valuable plants are brought together. If exhibitors and other authorised persons were required to wear a badge at the closing of the tents, and all others were compelled to retire, there would be little risk of the recurrence of such an incident.

A correspondent asks:—Will it be possible to identify those plants in future? and, I must confess, it is a very nice question, and one on which I do not care to venture an opinion. Perhaps, perhaps not. One or two of them are rare, or possess a certain amount of individuality, which, under certain circumstances, might enable them to be identified, but it is difficult to say that no others like them are known. Meantime, I do not think that the incident is yet closed.

Another correspondent calls attention to the record of parentage of Cypripedium × Olenus Sir Thomas Lipton, recorded at page 220 as "derived from C. ciliolare and C. bellatulum album." He remarks that as the latter flowered for the first time in this country in June, 1895, it is manifestly impossible that any seedling from it could have yet reached the flowering stage. This is precisely the idea which struck me at the time, and I turned up the record of C. bellatulum album in consequence. It would be interesting to have precise records of the matter, to see if any other explanation is possible.

I do not know whether I am expected to say anything on the question of Disa grandiflora with branched spikes, which was left in a rather interesting condition at page 231. Certainly the next which appears, if it is the "next," ought to be exhibited under a glass case. Reichenbach

once wrote:—"In auction rooms, drawings are shown as accurate copies of the original plant, but which are as much like it as the fine representations outside a menagerie are to the miserable beasts inside." I wish the remark applied to auction rooms only.

Last month I had some remarks to make respecting a figure of Odontoglossum crispum Prince of Wales, which were not exactly complimentary, but it gives me much pleasure to call attention of the beautiful supplementary illustration of Vanda × Miss Joaquim (not "Joachim," as in the text), which appeared in the *Gardeners' Chronicle* for August 13th last. Being reproduced from a photograph, it is as accurate as it is effective, which is saying a good deal. And what a beautiful hybrid it is! The flowers closely resemble those of V. Hookeriana—which is the more fortunate because scarcely anyone succeeds in growing that parent well—while it seems as easily grown as V. teres.

Before closing my present notes, I would allude to the beautiful group of hybrid Disas, figured at page 241. It is evident that these plants will occupy a prominent position in our collections in the future, as I hear that other seedlings are in existence. It is also interesting to have such a graphic illustration of the forms we already have.

ARGUS.

ORCHIDS IN SEASON.

SEPTEMBER will give us the last rays of our summer sun, the days become shorter, the intense summer heat begins to wane, and the nights become much cooler. Everthing seems to tell us that the summer has again almost disappeared, for our houses are now beginning to show the early stars of our autumn-flowering species.

In the Warm house several showy things are in blossom. Aërides Lawrencæ and suavissimum are very fine, and always remain in flower for three or four weeks. Ansellia confusa is also in bloom, and Galeandra Batemaniana is not yet over. Various Selenipediums are also to be seen, as S. longifolium, Schlimii, × Sedeni, × calurum, &c. Angræcums Chailluanum, arcuatum, and Scottianum will remain for a part of the present month, while A. bilobum and its variety Kirkii ought to begin to show their spikes.

Several other plants are now showing, as Cypripedium × Io, × Ashburtonæ and Charlesworthii. The two former are two well-known hybrids, and the latter, a handsome species well worth growing. C. × Arthurianum, a cross between C. Fairrieanum and insigne, as well as C.

purpuratum, are all promising. Catasetums are in full season, and their flowers vary a great deal in shape and colour. The following species are now in season: — albo-sanguineum, callosum, Christyanum, discolor, fimbriatum, macrocarpum, uncatum, Bungerothii, and × splendens. Dendrobium Phalænopsis is now beginning to throw up its spikes, and will soon be in flower, and, before leaving this house, we may mention that Mormodes buccinator, Cogniauxii, pardinum and its variety unicolor, are already in flower, some of them being very strongly scented.

Passing to the Intermediate department, which is gaily decorated, we notice among the Cattleyas, which are now forming a beautiful sight, the peculiar C. elongata, guttata, Leopoldi, Harrisoniana, and Loddigesii, the two latter being excellent varieties. There are also the beautiful little Lælia Dayana, with the allied L. pumila and præstans, which are all very pretty. Cattleya Dowiana aurea blooms during September, and is decidedly one of the richest of the genus, and finally C. Bowringiana, with its variety violacea, will soon be in flower. Lælio-cattleya × elegans is now in full season, and its fine spikes are among the most effective in the house.

Several Oncidiums are still in flower, and others are following on, amongst which are O. incurvum, Geertianum, prætextum, ornithorhynchum, and pulvinatum. O. varicosum, and its variety Rogersii, will soon open their first blooms. Miltonia spectabilis and its varities, bicolor, radiata, virginalis, and the beautiful Moreliana, will be at their best, and few Orchids surpass them at this season. Epidendrums radicans and Wallisii are still in flower. The little Brassia Wageneri, with its greenish flowers, is very pretty, and the first flowers of the beautiful Vanda cœrulea are just appearing.

In the Cool house, only a few things are to be expected. Several Odontoglossums are sending forth their spikes, amongst which may be mentioned O. grande, Schlieperianum, Edwardii, and retusum. O. Harryanum is in flower, and there are still odd spikes of earlier species. A few Masdevallia are still to be seen, and among them M. floribunda, which is now flowering very freely, and M. maculata. M. acrochordonia is now opening. Stenoglottis longifolia is very effective, also the free-blooming Spathoglottis Fortunei with its handsome yellow flowers.

In each department the plants are rapidly completing their growth for the season, giving promise of a renewed display of flowers in the future.

ODONTO.

HARTWEGIA KIENASTII.

In 1877, a curious little Orchid, which flowered in the collection of Consul Kienast, of Zurich, was described by Reichenbach under the name of Ponera Kienastii (*Gard. Chron.*, 1877, vii., p. 810), the author remarking :—"It forms quite a new, very curious section of the Poneras for its fleshy leaves." Bentham, with only the description to guide him, had written upon the sheet, "not a Ponera," and it was subsequently transferred to Scaphyglottis Kienastii (Hemsl. Biol. Centr.-Amer., iii., p. 219). An inflorescence and leaf from the original plant have now been sent to Kew by Consul Kienast, which show that it to belongs to the genus Hartwegia. It much resembles H. gemma, Rchb. f., in its dwarf inflorescence, and the leaf is also subterete, channelled, and mottled with two shades of green, but the flower is different in structure and colour. The lip has a short saccate base, formed by its union to the sides of the column. Above this it is sharply reflexed, after which the sides are infolded, forming a concave limb. The flower is veined with light reddish-purple on a whitish ground. It was originally discovered by Consul Kienast "near Comascaltepec, Sultepec, Arcos," about twenty miles from the city of Mexico, "in cold places, forming dense masses and patches on trees, and descending to the soil where it grows on moss." It can only be called a botanical Orchid, but it is interesting to find that it is still in cultivation, and to learn something more about it.

R. A. Rolfe.

THE STRUCTURE OF THE OPHRYDEÆ.

A novel view of the structure of the Ophrydeæ is given by Sir George King in his introduction to the Orchids of the Sikkim Himalaya. Alluding to the currently accepted theory that the stamen is single in this group, as in the rest of the Monandræ, Sir George King remarks :—"A minute examination of the Sikkim species convinces me that this is not the case ; and that, in the Sikkim species at any rate, there are two stamens. This view is not, however, taken by Mr. Pantling, who is not satisfied with the proof of the hypothesis, and it is therefore published here on my own responsibility. . . . . The fertile anther is said to be the middle one of the outer whorl (*i.e.*, the one opposite the odd sepal), the other two anthers of the outer whorl being represented by processes on the lip, and all the three of the inner whorl being merged in the column. One of the stigmas is supposed to be modified into the rostellum, and the other two to form the viscid stigmatic surface—a surface which, although usually simple, is, in many cases, bifid or quite divided into two segments. . . . . If, however, the anther-cells of the Sikkim Ophrydeæ be carefully examined, it

will be found that it is difficult to explain their structure on the monantherous theory. For although, in some species, the anther cells lie close together, in many, they are widely separated, the pollinia being also produced into long caudicles contained in canals, neither caudicles nor canals having any apparent attachment to a rostellum. Moreover, each of the fertile anther-cells bears on its surface a rugulose body which . . . is referred to as the staminode. . . . . In my opinion, the Sikkim species of Ophrydeæ have really two anthers, one cell of which is fertile and the other infertile. The infertile cell invariably occupies a position on the outer surface of the fertile one, and is the body usually described as a staminode. The two fertile anthers belong, in my opinion, to the inner whorl, the infertile anther being merged in the column. In the Sikkim Ophrydeæ, one of the three stigmas is infertile, and the two lateral are fertile. These fertile stigmas are, in many species, quite distinct from each other; in other species they are conjoined into a simple or bilobed mass. The infertile stigma, in many of the species, is obscure; in others, it forms a thickened and usually curved line running between the bases of the anther-cells. . . . . The infertile stigma acquires its greatest development in Diplomeris hirsuta, in which it forms a large concave hood placed well in front of the anther cells, and (in a front view) hides the whole of the latter, except the extremities of the caudicles and their tubes. In this remarkable plant, the two fertile pistils consist of two elongated parallel bodies, stigmatic at the apex, which overhang the claw of the lip and point downwards like the lip."

This view is thus briefly summarised in the key to the tribes :—

Anther single.—Malaxideæ, Epidendreæ, Vandeæ, Listereæ, and Goodyeræ.

Anthers two, each with only one perfect cell.—Ophrydeæ.

Anthers two, each perfect.—Cypripedieæ.

Now, it is quite clear that the author has been misled by appearances in this highly complex group. The anther of Ophrydeæ is single, and occupies precisely the same position as in the rest of the Monandræ, but its two cells are often widely separated, owing to the great breadth of the connective, and thus appear lateral. The staminodes on either side represent the two lateral abortive stamens of the inner whorl, and do not belong to the same staminal whorl as the fertile anther. The infertile stigma is the rostellum, and serves the double purpose of secreting the gland, to which the pollinia become attached, and of preventing the pollinia from falling on the stigma. In this group it is very frequently trilobed, and the middle lobe, to which the author wrongly restricts the term "infertile stigma," is sometimes nearly abortive, or perhaps confluent with the connective of the anther. The side lobes of the rostellum are also confluent with the anther-channels,

and produce the gland at their apex; yet the author says "neither caudicles nor canals having any apparent attachment to a rostellum." The gland of the pollinia is invariably rostellar in its origin, which would be impossible according to the new hypothesis. The idea of the fertile anther cell bearing on its surface an infertile cell or staminode is also due to the confluence of two distinct organs. The author, in a footnote, remarks:—"I have examined many flowers and drawings of species of Ophrydeæ in the hope of finding a species in which the infertile cells or staminodes are attached on the *inner side* of the fertile cells. But the only case in which I have found such an appearance is in Mr. Bolus's drawing of Pterygodium carnosum, Lindl. (*Orchids of the Cape Peninsula*, t. 12, fig. 5). If the structures there represented as ovoid rugulose bodies really are staminodes, the fact affords a strong confirmation of my theory." But, unfortunately for the theory, those bodies are the two stigmas. The fact is that the flowers of this group have undergone such an extraordinary amount of distortion, owing to the suppression and division of the different organs and the union of unlike parts with each other, that it is not safe to trust to appearances, and, to the extent pointed out above, the characters of the tribe Ophrydeæ in this work must be modified. And the same may be said of the remarks under Diplomeris at page 338. It is only in the most highly specialised members of the group that this division of the anther and rostellum are seen to such perfection, and, by working backwards to the less modified species, every step of the development may be traced. A somewhat similar division of the anther is seen in Mystacidium and Dendrophylax, but no new theory is required to explain it.

R. A. Rolfe.

LISSOCHILUS ARENARIUS.

This widely diffused and pretty species of Lissochilus has at last appeared in cultivation. Flowers which were produced in the collection of M. le Duc de Massa, Château de Franconville, France, where L. giganteus is said to flower each year, have been sent to Kew, by M. J. Sallier, of Neuilly. The tubers were introduced a few years ago from the Congo, by M. Dybowski. The sepals are green, slightly suffused with purple-brown, and acuminate, while the broad petals and lip are mauve-purple, the latter being rather darker in front of the two-horned crest, and the saccate spur yellow inside, with a few dusky-brown dots. It is widely diffused in East and West Tropical Africa, extending also to Natal and the Comoro Islands.

R. A. Rolfe.

ORCHIDS IN GUIANA.

A VERY interesting paper, entitled "Sketches of Wild Orchids in Guiana," by E. F. im Thurn, F.R.H.S., appears in the last number of the *Journal of the Royal Horticultural Society*. The subject was down, some years ago, for one of the afternoon lectures, though circumstances did not permit the author to keep his engagement.

The author remarks that Guiana is a land of Orchids, but not of showy Orchids. He has devoted attention to nearly 300 Guiana species, but thinks it doubtful if the ordinary grower would care to have more than a dozen of them in his houses. The most desirable kinds he enumerates are Oncidium Lanceanum, Cattleyas superba and Lawrenceana, Zygopetalums rostratum, venustum, and Burkei, Paphinia cristata, Ionopsis paniculata, Rodriguezia candida, and perhaps Catasetum longifolium. The district referred to lies between 7 and 8 degrees north of the equator, all of it being of low elevation and covered with the densest forest, only broken by the wider rivers and by small patches of wet and dry savannah.

Two of the best Orchids of Guiana are to be found by the seaside. Behind the sandbanks, the mangroves often attain a considerable size, and it is high up on trees of this kind, exposed almost to the full blaze of the sun, that Oncidium Lanceanum grows most luxuriantly. It is said to be widely but sparsely distributed, and a most successful garden Orchid in the colony. Masses of it may be seen in the older gardens of Georgetown, and, in one case, a mass, which had been sold, was found to be too big for the cart sent to fetch it, and it had to be divided. Diacrium bicornutum also clings to the more exposed boughs, and seems to enjoy the blaze of the sun and the full exposure to the salt-laden wind. Epidendrum fragrans, in places, clothes the otherwise bare trunks of the mangroves which border the large rivers for many miles from the sea. In places, colonies of Coryanthes maculata are found, the roots being matted together by ants into a round, black mass. Epidendrum imatophyllum and Schomburgkii occur in the same places, and with much the same habits.

On some of the smallest twigs of the water-washed bushes on the smaller creeks, deeper in the forest, cling the tiny, Iris-like plants, bearing comparatively enormous yellow flowers, of Oncidium iridifolium, while, higher up the same bushes, on the stouter branchlets, hang clusters of the dark-green leaves of Rodriguezia secunda, its long spikes of large, intensely ruby-coloured flowers looking more jewel-like than ever when one happens to see them against the strong light of that sky. In similar places, but more rarely, grows R. candida, with broader, darker leaves and large, white flowers, whose beauty is increased by the pale, lemon-coloured throat of the labellum.

A characteristic Orchid, with a pendent habit, has long wiry rhizomes, much-sheathed pseudobulbs and long grassy leaves, and bears shortly stalked white or whitish flowers, individually beautiful and still more beautiful in the mass, which are sometimes familiarly spoken of in the colony as "snowdrops." This, we may add, is Camaridium ochroleucum. On some of the trees, where the branches leave the trunks in the upper angles, nestle, their roots crowded with large, black, stinging ants, clumps of Stanhopea eburnea, and in similar places, but generally near the ground, and so placed that the flowers can rest on the vegetable débris, are found Peristerias pendula and cerina. Up the tree trunks, almost always on the side away from the creek and from the faint light which there prevails, closely cling luxuriant masses of Zygopetalum rostratrum, its huge, white, violet-veined flowers standing out with almost startling clearness from the gloom in which it grows. On the lighter sides of the same trunks grow, not in masses, but widely-scattered and singly, delightfully neat little plants of Paphinia cristata, its purple flowers, barred with white, extraordinarily difficult to see in the half-light natural to it. Stenia pallida grows in similar positions. Much higher up the trees, but still in the shade of the leafy roof, and almost always overhanging the water, occur the Gongoras, with necklace-like strings of flowers of several colours.

On bushes in the wet savannahs are vast masses of Epidendrum oncidioides, with clustering pseudobulbs and narrow leaves, whose innumerable straw-coloured flowers, tossed up into the air on very long flower-stalks, sometimes in such profusion as almost to dim the light, fill the air with a scent as of newly-flowering Hawthorn. Nor is this the only, or perhaps the most striking, Orchid of such places, as, from innumerable of the smaller branches of the bushes and from many of the woody aroid stems, hang long, loose clusters of Ionopsis paniculata, with its light clouds of pale, violet-coloured flowers, apparently hardly held together by anything substantial enough to be called a stalk.

We have ventured to extract and condense a few graphic extracts from this most interesting paper, which should be read in the original, and we also reproduce the concluding paragraph, which has a practical importance for us.

"I have found by experience in my own garden (which it must, however, be remembered is in the tropics)," the author observes, "that a great many small Orchids which it seems difficult or impossible to establish in pots or on blocks, or in any of the ordinary methods of the garden, can be established very readily—so readily that in the tropics they soon seed themselves freely over the garden—on growing plants of garden shrubs. Such shrubs as the various species of Tabernæmontana, Jasminum, Gardenia, Hibiscus, Coffea, and even Crotons, make suitable hosts for Ionopsis

paniculata, as also for the much rarer I. teres, for Ondidium iridifolium, Rodriguezia (including R. candida), and, in short, for most of those which grow naturally on the outer branchlets of trees or shrubs, and are consequently much exposed to the sun, and are, at the same time, provided with ideally perfect drainage. The conditions in an English stove, of course, differ very materially from those of a tropical garden; but it would, perhaps, be worth the experiment whether some of the small 'difficult things' might not be grown on living hosts."

ONCIDIUM KIENASTIANUM.

ONCIDIUM KIENASTIANUM was described by Reichenbach twenty years ago (*Gard. Chron.*, 1879, ix., p. 558), from a plant which had been imported by Roezl, it was supposed, from Northern Peru, and flowered in the collection of Consul Kienast, at Zurich. It was described as "of near affinity to the rather well-known Oncidum trilingue of Dr. Lindley," being, however, "very distinct in its much shorter bracts, in the different colour of the flowers, the very different keels of the lip, and in the very much less developed undulation of the sepals." It is very interesting to find that the original type plant still exists, Consul Kienast having now sent an inflorescence to Kew. Unfortunately for the description, this specimen proves to be O. trilingue itself, none of the differences pointed out being present, and thus we may suppose that the plant was not fully developed when the description was made. On the other hand, it is interesting, after this lapse of time, to know what the plant really is, and relegate it to its proper position. O. trilingue first flowered in the collection of Sir Phillip Egerton, in April, 1850. It had been collected by Warscewicz, no doubt at the sources of the Maranon River, Peru, from which locality he sent dried specimens. It is a very distinct species of the O. macranthum group, with very undulate sepals and petals, but rather dingy in colour.

Another species is somewhat affected by the above discovery. At the Temple Show, in 1892, a plant was exhibited by Messrs. F. Sander & Co., under the name of Oncidum Rolfeanum, to which a Botanical Certificate was given. This I at first thought might be O. Kienastianum, though I remarked that there were characters which, if correctly given, would show it to be specifically distinct (*Gard. Chron.*, 1892, xii., p. 34). O. trilingue was, of course, well known, and much too distinct to be confused. Several other species of this group are only known from Reichenbach's descriptions, and all may not prove distinct when his Herbarium comes to be opened.

R. A. ROLFE.

THE HYBRIDIST.

SOPHROCATTLEYA × CHAMBERLAINII.

A MOST beautiful hybrid has been sent from the collection of the Right Hon. Joseph Chamberlain, M.P. It is one of a number of seedlings derived from a cross between Cattleya Harrisoniana ♀ and Sophronitis grandiflora ♂, and thus would, at first sight, appear to be the reversed cross of Sophrocattleya × Calypso, raised by Messrs. Veitch. A comparison, however, shows the two to be remarkably different, for which reason we have treated the present one as distinct. Cattleya Loddigesii and C. Harrisoniana are a good deal confused in gardens, but the former has more ample side lobes to the lip, a paler, nearly smooth disc, broader petals, and greater substance of the flower generally, all of which characters are strongly marked in Sophrocattleya × Calypso, as compared with the present hybrid, which latter, we are assured, is certainly derived from C. Harrisoniana. Future experiments may, perhaps, throw further light on the suggestions offered. The present hybrid shows much of the character of C. Harrisoniana in the sepals and petals, the colour, however, being modified to clear, deep, brilliant rose-purple, which also extends to the front lobe of the lip and round the margin of the side lobes. The disc and throat are bright yellow, passing to white towards the base. In shape, the lip shows a good deal of the Sophronitis character. It is a brilliantly coloured and very charming little plant, and is rather more comparable with Sophrocattleya × Veitchii than with S. × Calypso. There are other seedlings which have not yet reached the flowering stage.

SOPHROCATTLEYA × GEORGE HARDY.

A very pretty little hybrid was exhibited at the Royal Horticultural Society's meeting on May 10th last by F. Hardy, Esq., Tyntesfield, Ashton-on-Mersey, under the above name, and received an Award of Merit. A flower has now been sent by Mr. Stafford, who remarks that it was derived from "Sophronitis grandiflora × Cattleya Aclandiæ." It combines well the characters of the two parents, the flower being larger than in the Sophronitis; the sepals and petals somewhat incurved, and of light reddish-purple tint, with a few small darker spots; and the lip larger, somewhat obtuse, and more purple, with a deep yellow disc and some veining in the throat. It is an interesting addition to the group.

ODONTOGLOSSUM × ROLFEÆ.

Another most distinct and charming hybrid Odontoglossum has flowered with M. Ch. Vuylsteke, of Loochristy, who obtained it by crossing O. Pescatorei with the pollen of O. Harryanum. The raiser states that the plant is strong and robust in growth, and has now produced a first spike of

seven flowers, one of which has been kindly sent. The way the characters of the parents are combined is very remarkable. The general shape of the flower is almost that of O. Harryanum, but with the petals as widely expanded as the sepals; thus it is nearly flat. The ground colour, however, is ivory white, slightly stained with purple at the tips of the sepals, and all the segments bear numerous, small, purple spots, those of the lip being confined to the basal half, and those of the petals aggregated in a zone near the centre. The flower measures just three inches from tip to tip of the petals, which latter and the sepals are nine lines broad, and the lip an inch broad. This organ is also flat, and somewhat pandurate, with the crest much like that of O. Harryanum, only the hairs are shorter and stouter. The column-wings are narrow, serrulate, and white, with several brown spots, thus recalling O. Pescatorei. It is very beautiful, and we must again congratulate M. Vuylsteke on his success with this difficult genus, this being the third hybrid Odontoglossum which he has flowered during the present year, M. Vuylsteke wishes it to bear the above name.

Paphiopedium × Mahleræ.

Flowers of a very handsome hybrid, derived from P. Rothschildianum × Lawrenceanum, are sent from the collection of R. H. Measures, Esq., The Woodlands, Streatham, and well combine the characters of the two parents. The dorsal sepal is very large, broadly ovate, and acute, with a greenish-yellow ground colour, and about nineteen strong, longitudinal, purple-brown stripes, with a few slender intermediate ones. The petals are rather spreading, tapering to the apex, nearly four inches long, and strongly ciliate, with a similar ground colour, and numerous, purple-brown spots which are prominent and wart-like towards the base. The lip is most like P. Lawrenceanum in character, as is also the staminode, being broad, trilobed, and nearly flat, but very pubescent at the base. In its racemose character it most resembles P. Rothschildianum, and is one of the finest hybrids derived from that species which we have yet seen.

Cattleya × H. Hannington.

Another handsome hybrid has been sent from the collection of R. H. Measures, Esq., with the above. Mr. Coles states that it was derived from a very fine form of C. Leopoldi, crossed with the pollen of a plant they have under the name of Lælio-cattleya × Marion, of whose origin and parentage they have no record. It is much like a glorified edition of the seed-parent, for the flower is considerably increased in size and in its richness of colouring, while, at the same time, retaining the same general character. The pollen agrees with Cattleya, and, if the pollen parent is a true Lælio-cattleya as its name implies, most of the original Lælia character seems now to have been lost. It is certainly very handsome.

BOTANICAL ORCHIDS AT KEW.

LIKE their more showy brethren, botanical Orchids show a diminution in numbers during the hot summer months, but several of those previously mentioned are still flowering at Kew, besides which several fresh ones are also coming into flower, so that there is still much of interest to be seen in this department.

Chondrorhyncha Chestertoni is well worth general cultivation. It seems, when well-established, to flower at any time of the year. An interesting little plant is Corycium orobanchoides, belonging to the Cape flora and very seldom seen in cultivation. Its flowers are greenish, and possess a peculiar odour. Dendrobiums alpestre and terminale are pretty little plants; the former very small in habit, and produces a quantity of flowers which remain in perfection for several weeks, and the latter is a Burmese species of the section Aporum, easily grown and free blooming, the flowers white with a pink shade, and mostly terminal, but, unfortunately, they do not last very long.

Erias are represented by two pretty little species, E. concolor, with its small yellow flowers, and E. latibracteata, one of the most attractive species of the genus. Of quite botanical interest is the curious Liparis reflexa, an Australian species. Paphinia rugosa and cristata are two gems not very often met with, the former producing large, yellowish, spotted flowers, whilst those of the latter are of a chocolate colour, and both are worthy of general cultivation.

Some of the small Pleurothallis are very interesting, amongst which P. picta and maculata are very free blooming, while P. Johannis is quite a botanical species. Masdevallia gemmata is always pretty and keeps on flowering month after month. The peculiar Sigmatostalix radicans is also worthy of mention.

Amongst the Warm house species, only a few are now to be seen, and among them the distinct Podochilus longicalcaratus with its small, long-spurred flowers, which appear on short peduncles at the base of the leaves. The small, white flowers of the rare Appendicula bifaria are very pretty, and we may again mention the pretty little Ornithidium nanum, which is still in flower. Megaclinium triste, with its blackish flowers, is another remarkable species. Cycnoches Egertonianum, chlorochilon and Loddigesii, all possess such curious and attractive flowers that one can only regret that they are not more frequently met with. Trichopilia hymenantha and Sarcanthus Williamsoni are two of the species now showing for flower, which will keep up the succession during the autumn.

ODONTO.

AERIDES ODORATUM.

THE accompanying illustration represents a most remarkable speciman of Aërides odoratum which has just flowered in the collection of R. le Doux. Esq., Marlfield, West Derby, Liverpool. It has, further, a very interesting history, which, together with the portrait, has been kindly forwarded by Mr. le Doux. It was purchased from Messrs. John Cowan & Co., of Gateacre Nurseries, Liverpool, and had previously been in the collection of

FIG. 14. AERIDES ODORATUM.

the late Mr. E. S. Rand, of Pará. That gentleman, during his lifetime, had made an arrangement with Mr. John Cowan, of Liverpool, that, on his death, his collection should be brought to this country and sold on account of his executors. This Aërides was established on a tree in Mr. Rand's

garden at Pará, where it had been placed some years before when very small, but now the speciman measures five feet six inches high, by about three feet across. It grew very vigourously, but, so far as can be ascertained, has not flowered before, possibly because the climate kept it in a state of continual vegetative activity. Mr. Rand is said to have received it from the Phillippines, where, if the record is correct, it was presumably cultivated, as the species is not known to be indigenous there, tho ıgh it ranges from Northern India to Cochin China. On learning of Mr Rand's death, Mr. John Cowan, Jun., went to Pará to pack and bring home the collection, which was safely accomplished, and this specimen was purchased by Mr. le Doux, attached to the branch on which it still grows.

The check attending its removal, or the different circumstances under which it is now placed—perhaps both—has had a remarkable effect upon the plant, which has now yielded a magnificent display of its fragrant blossoms, sixty racemes in all, as depicted in the illustration. It was exhibited at the Liverpool Exchange News Room on August 10th last, where it created quite a sensation, both among Orchidists and the general public, and, on the following day, it appeared at the meeting of the Manchester and North of England Orchid Society, when it received a Silver Medal. Mr. le Doux must be congratulated on possessing such a beautiful specimen, and his gardener, Mr. Archer, and Mr. Cowan, on the care they have taken in keeping it in such evident health during, and after, such a long and trying journey. It will be interesting to watch its future behaviour. An inflorescence sent shows the flowers to be white, tipped with purple on the sepals and petals, light green at the apex of the spur, and a purple line down the centre of the front lobe of the lip, and thus is a fairly typical form of Aërides odoratum.

ORCHIDS AT STREATHAM.

LÆLIO-CATTLEYA × elegans is better represented in the collection of R. H. Measures, Esq., The Woodlands, Streatham, than in most other private establishments, and at the present time some twenty-five or more plants are in flower, while others are showing. Looking through these the other day, we made the following notes of the more striking forms. The old variety Turneri, with its obovate front lobe, was the darkest of those in flower, and was represented by two fine spikes. One called Sappho has rosy-purple sepals and petals, and all three lobes of the lip very dark purple. Harold Measures has the front lobe of the lip quite sessile, extremely broad, and, as well as the tips of the side lobes, deep purple. One, called Mrs. Mahler, has the sepals and petals of a very light, greenish tint, with a few purple splashes

near the apex, and the lip very strongly three-lobed, with the side lobes longer and narrower than usual, and tipped with rather light purple. Juno is remarkable for having the dark purple of the side lobes extending down the throat almost to the base of the lip, the front lobe also being very dark. Stella has many little spots in the sepals and petals, and the side lobes of the lip rather narrow. Murcia has the petals curiously margined near the apex, with short, purple, radiating lines, a trace of the same character being also apparent in the petals. Amphion is less strongly three-lobed than usual, and the dark purple of the front lobe runs across the truncate apex of the side lobes as a purple margin, while the outside of the tube is nearly white. One form in flower was much larger than the average, with broad petals, though about typical in other respects. Another had no purple at the apex of the side lobes, while the sepals and petals were very light in colour. One plant was showing three spikes, the best with eight flowers. Lastly may be mentioned one curious flower in which the petals were apparently absent, though, in reality, confluent with the dorsal sepal, and thus presenting quite an unusual appearance. It would be interesting if all the different named varieties in cultivation could be compared together in this way, for there are many named forms whose characters are very little known, and some are probably not distinct.

Several other interesting Orchids were in flower. Lælio-cattleya × Schilleriana was mostly over, being an earlier-flowering hybrid, but one distinct form remained, in which the side lobes of the lip were very well developed, but wholly white, like the sepals and petals, while the front lobe was deep purple. A fine plant of Odontoglossum coronarium carried a spike of thirty flowers. The beautiful Dendrobium Phalænopsis was represented by three charming forms, but most of the plants were growing strongly at this season and will flower in profusion later on. The rare Houlletia odoratissima was throwing up a spike. Many Cypripediums were out, of which C. × William Lloyd was the richest in colour. C. × tessellatum porphyreum was in bud, and C. × miniatum was a good plant carrying six well-developed flowers. The new C. × selligero-Rothschildianum was also very fine. We also noted C. × Godefroyæ and C. × G. leucochilum, and Mr. Measures remarked that these came out of an importation which yielded also C. concolor, C. niveum, C. bellatulum, and several of the intermediate forms which are referred to C. × Godefroyæ. The importation was shipped from Singapore by Messrs. Walter Kemsley and Son, and was purchased entire, as received in the cases, and divided with his brother at Camberwell, who also had the same experience with it. One other curious feature noted in this interesting collection was half a dozen plants of C. insigne, in which the leaves are irregularly variegated, a peculiarity for which no adequate reason can be assigned.

ORCHID CULTURE IN BELGIUM.

(*Continued from page* 238.)

Two establishments at Bruges, which we particularly wished to see, were the old-established one of M. Vincke-Dujardin, and the recent one of Messrs. F. Sander and Co., and to these a day was devoted on our return journey. We may take them in the order visited.

The important branch-establishment of Messrs. F. Sander and Co., at Bruges, has been quite recently organised, indeed, at the time of our visit, it was only partly finished, though the older part was replete with interesting things. It is not by any means limited to Orchids, though with these we are alone concerned. Four large houses have been constructed of pitch pine, with every modern improvement, each being divided into three compartments, and here we found thousands of the leading kinds, many of which are being grown chiefly for cut flowers. Some Odontoglossums, grown for this purpose, had been in leaf mould for two years, and were as healthy as could be wished.

In the first range of houses visited, we found two divisions largely devoted to Cattleya labiata, and the third to Odontoglossums, together with a few other things ; and among the plants specially noted were a very fine specimen of Lælia purpurata in a basket of two feet diameter ; a form of Ondontoglossum Pescatorei with exceptionally large flowers ; some good O. Cervantesii and O. Rossii, including the peculiar O. R. Ehrenbergii with greenish markings ; and some good Oncidium concolor and Marshallianum. The second house had one division chiefly devoted to Odontoglossums, and two to Cattleyas and Lælias ; while of the third, two contained chiefly cool Odontoglossums, and the other, a fine lot of Lælia anceps and Odontoglossum grande. Among the Odontoglossums, we noted a batch of O. triumphans and Pescatorei mixed, as imported, one very good form of the latter being white with a few purple spots which set it off to advantage. Here, also, was a very good form of O. × Humeanum, and other hybrids, as O. × elegantius, and some good O. × Andersonianum and × Wilckeanum. The fourth house had one division largely devoted to Lycaste Skinneri and two to Cypripediums and Cattleyas, with a few other miscellaneous things. A healthy batch of Dendrobium Phalænopsis was suspended from the roof. Several good Cattleya intermedia were observed in flower, also Cypripedium Mastersianum, and Trichopilia tortilis. Lycaste Skinneri was flowering in quantity and great variety, including several pretty forms, of which the variety alba probably comes first, on account of the purity of its flowers. There were also many plants of L. aromatica, and Cypripedium insigne was, of course, represented by a large batch.

An interesting feature was the little rockeries at the ends of the houses,

on which some of the principal kinds in flower at the time were very effectively arranged. In one of these, Cattleyas formed the chief feature, in which the varieties of C. Schrœderæ were particularly attractive. In another case, varieties of Odontoglossum crispum, combined with a few plants of Cochlioda Nœtzliana, proved very effective. O. cirrhosum, set up with Masdevallia ignea and M. caudata, also formed a charming group. Two other groups consisted of Lycaste Skinneri alba interspersed with some of the coloured forms; and some well-flowered plants of Oncidium sarcodes set up with scarlet Anthuriums, which formed a very pretty combination. All the plants were in a thriving condition, and there is every indication that the establishment is destined to take a very important position among continental nurseries.

A visit to the large establishment of M. Vincke-Dujardin, at Scheepsdale, Bruges, proved specially interesting on account of the excellent condition of the Odontoglossums and other things so largely grown there for cut flowers. O. crispum is grown in thousands, and the plants have been established for years without showing any signs of deterioration; while other Orchids are equally well cultivated.

The Orchid houses are arranged in a block, on the usual Belgian plan, open underneath the staging, and without dividing walls; an arrangement which, while forming separate houses above, secures at the same time the best possible circulation of air, without causing cold draughts. In this case, the houses run right and left of a large central transept, fifteen on each side, the centre being devoted to Palms. Odontoglossums occupy the premier position, and it was a pleasure to walk through house after house and note their firm pseudobulbs, clean dark green foliage, and sturdy spikes. We noted that the pipes were covered with a layer of tobacco stalks, which seems to be an effectual preventive of thrips. In answer to enquiry, M. Vincke informed us that the plants were potted entirely in a mixture of polypodium fibre and sphagnum.

Although the best plants were away at Ghent, where they had secured the Gold Medal offered by the King of the Belgians for the best hundred Orchids, there were numerous interesting things in flower. First must be mentioned Odontoglossum crispum, of which many fine examples were in flower—in fact, we found M. Vincke with a large handful of magnificent spikes which had been cut in the ordinary course of business—and the number of those in bud was legion. All the ordinary species are well represented, and, among those in flower, we noted some good O. Rossii and others which flower at this season. Several hybrids were noticed, including O. × Coradinei and a good O. × Wilckeanum with a white ground. Oncidiums included the handsome O. spilopterum and some good O. sarcodes, one being very richly coloured. Ada aurantiaca was also very effective.

Passing along, we came to a fine house of Cattleya labiata. and another devoted to miscellaneous species, where we observed some good C. Mendelii, C. amethystoglossa, Lælia purpurata, Laelio-cattleya × Hippolyta, producing a splendid spike but still in bud, and a very good L.-c. × Schilleriana. A house of Lælia anceps was a most interesting sight, presenting a forest of healthy roots and bulbs, yet the plants had not been potted for seven years. Of course, they were not in bloom, but the remains of the spikes showed that they had flowered with the utmost profusion in their proper season. Other plants grown in quantity, which we observed in flower, were Lycaste Skinneri, Miltonia vexillaria, Vanda tricolor, and various Cypripediums, all being very well grown—in fact, excellent culture is a feature of the whole establishment.

Other Belgian establishments would doubtless have repaid a visit could we have found time. One that we regretted missing was that of M. Ch. Vuylsteke, of Loochristy, but a friend, who was fortunate in having more time at his disposal, and who is an expert grower of Odontoglossums, informed us that these plants were there particularly good. O. triumphans he had noted as specially numerous and varied, and there was a particularly fine form of O. × excellens with a very long spike. The home-raised seedlings were also very interesting, and included one derived from O. crispum and O. Harryanum, then in bud, and a third plant of O. × loochristiense, with soft creamy-yellow flowers, and a single brown blotch on the petals, but several larger ones on the sepals. Lastly, he remarked that the plants of Miltonia vexillaria in this establishment were, he thought, the best he had seen.

This concludes our record of a most enjoyable week spent in Belgium, during which we saw many things to interest us, and experienced many kindnesses from Belgian friends. A comparison with the results obtained in England is difficult, because several of the conditions are essentially different. Two points, however, which particularly struck us, were the comparative absence of what are usually termed East Indian Orchids, and the extensive culture of Odontoglossums in the best possible condition—the latter not superior to what we have seen in several collections in England, where the requirements of these plants are well understood and provided for, but in several of the establishments visited everything is arranged in accordance with these requirements, and the results are just what might be anticipated where the natural conditions are equally favourable. It would be interesting if some of our best cultivators would give us their views on some of these points.

CALENDAR OF OPERATIONS FOR SEPTEMBER.

By H. A. BURBERRY, King's Heath, Birmingham.

THE advent of September reminds us that the summer is rapidly passing away, and that the winter is not far ahead. We must, therefore, take steps to meet the latter by losing no opportunity of preparing our plants to resist the evil influences of the short, cheerless days, and long, cool nights which are then inevitable. This can only be accomplished by treatment which will tend to harden or ripen the new growth, a process which, for obvious reasons, must be gradual in order to be effective. To suddenly expose tenderly matured exotic plants to large volumes of air, or to great drought, would, of course, be courting disaster.

We must, therefore, not allow the present month to pass by without giving all the air and light that is possible, at the same time gradually curtailing the supplies of water, both at the roots and in the atmosphere, for there are already a large number of Orchids of various species which have finished their growth and require only to have the same properly matured. Such plants as Dendrobiums and similar kinds, which make up their pseudobulbs quickly, as, for instance, Thunias, Pleiones, Cœlogynes, Mormodes, Cattleyas, &c., might be removed to another department, such as a vinery, and there be treated for the next five or six weeks with advantage. But, if no such convenience exists, they must remain in the department in which they have grown, and where a good many other species are still growing; which latter, although rejoicing at this season in more light and air, would not relish *quite* so much as the vinery would afford. Under such circumstances, one must proceed with care, and a way out of the difficulty may easily be found by placing those requiring most air and light near the roof and against the ventilators, and those liking more shade and moisture in correspondingly favoured positions, and all will then proceed merrily.

The Cool house should want no warmth from the hot water pipes during this month. Give plenty of air, especially during the night time; in fact, let the ventilators be opened wide, and the plants will then make great progress. The Intermediate houses, though not requiring it by day, are the better for having the pipes gently warmed at night, as it causes a quicker circulation of the air, and is therefore a great factor in the development and consolidation of the growth. Endeavour to maintain a little air on the top ventilators of these houses also during the night, as it works wonders at this season of the year. The last instruction should also be applied to the East Indian department, as the beneficial effect upon the inmates is here no less apparent.

Any species of cool Odontoglossoms may be repotted with great

advantage during this month, provided they are in a condition to require root disturbance, and at the right stage of growth, which, as I have said before, is when the new break is starting from the previously made pseudobulb. Let me once more here warn growers against too much meddling for the purposes of repotting. When the roots of an Orchid have got well down among the crocks (which are best if of burnt earth or broken bricks) they render great service, and fine, large, healthy growth is the result. These roots should remain perfectly healthy until the plant has out-grown its pot, subject to careful watering, and it should be borne in mind that an Orchid, having such roots well down among the crocks- -which remain moist long after the surface has become dry—requires less frequent waterings than one with no roots there at all. Hence the necessity of careful watering, so that these roots may not perish through too much water, as they will do. It is surprising what an amount of drought an Orchid will stand with impunity when well provided with roots. Hence, also, the reason why we should avoid, as long as possible, repotting, for the old roots will then invariably die and new ones have to be formed; the growth of the plant being, of course, paralyzed for a time.

There are but few Orchids in bloom just now. It is the dullest time of the whole year, and, perhaps, it is well it should be so; for what with the outside flower garden, the holidays, and the innumerable other attractions this month affords, the Orchids are not so greatly missed. It is a lull before the storm, for the following month will bring upon us an array of floral beauty, which can scarcely be surpassed, even in the month of May. The five species taking the prominent part in this anticipated great show are Cattleya labiata, C. Dowiana aurea, Dendrobium Phalænopsis, D. formosum, and Odontoglossum grande, and, when these are out in full beauty, what other five species can beat them?

But, coming back again to the present, we are not absolutely devoid of flowers. The great charm of Orchid growing is that there is always something in bloom, and something interesting to look upon, no matter what the season. We have still a few of that most gorgeous and brilliant Cattleya, C. Warscewiczii (gigas), and after blooming, this species should be given an airy situation in a sunny house. Its winter temperature should be an intermediate one, with just sufficient water applied to keep the pseudobulbs plumpish, and, for this, a very small supply is necessary. Then there is Cattleya Rex, a few plants of which have yet to bloom. It is rather a neat and pretty species, but not by any means can some of its varieties be termed showy. Some few are good, but the majority are certainly below our first expectations. It seems a good species to grow, and requires nothing more than the uniform treatment meted out to the general collection of Cattleyas. A few flowers of Cattleya Gaskelliana may still linger, but the majority of

the plants will be in a resting condition, although actively engaged in making a network of new roots which will conduce to their future prosperity. Cattleyas, if in good condition, continue the formation of new roots more or less throughout the year.

C. Dowiana aurea will also be represented by a few plants which complete their new pseudobulbs early. This most superb species is a great favourite with all Orchidists. It is a species of easy culture, if treated with a reasonable amount of care, otherwise, it may collapse at very short notice, it not having such a strong constitution to resist wrong treatment as some others of the genus. It likes a good amount of heat during the growing season, which means that it is best accommodated in baskets or pans, so as to admit of its being suspended from the roof of the house, a position well known to afford more heat in summer than the ordinary plant stages. It also likes a plentiful supply of water when growing, but, when resting during the winter, very little indeed is required, and here again we have the advantage of suspending the plant, as it is then less likely to receive water when not required; and this does sometimes happen to plants on the stages, either wilfully or accidentally. When perfectly dry and at rest, the temperature may fall as low as 50°, but it is unwise to let it go lower, unless for extremely short periods, or the germs of a disease may be sown which generally appears soon after the plant commences to grow during the following spring, in the form of a black rot or decay. When a plant is stricken with this disease, goodbye can pretty safely be said to it.

Cattleya superba, C. Lueddemanniana (speciosissima), and C. Eldorado are all subject to the same black rot, the cause of which I attribute to faulty winter treatment—the plants having been kept either too wet or too cold, and in all probability both. The two last-named are flowering at their best just now, and are both handsome kinds and well worth growing, forming as they do a substantial backbone to what would otherwise be a sparse show of bloom. They require exactly similar treatment to C. Dowiana. Of other Cattleyas in bloom this month I may mention C. Harrisoniana and the closely allied C. Loddigesii, C. Leopoldi, C. bicolor, and C. granulosa; all very pretty and useful species, growing well in the general conditions afforded by a well regulated Cattleya house. Nor must we forget the time-honoured old Orchids, Lælia crispa and L. Boothiana, never so free to bloom as L. purpurata, yet exceedingly chaste and pretty. It may be remarked that these two species generally appear to flower best when seeming to be badly cared for. I mean to say when looking in a yellow, somewhat shrivelled, and rambling growing condition, all more or less offending to the eye of the Orchidist. Nevertheless, it is a fact worthy of a little consideration, and may serve as a useful lesson in the subject of uncalled-for root disturbance, or of over-indulgence in shade or moisture

without the necessary supply of air to counteract such enervating influences, by which an Orchid may get like an over-fed, cooped-up hen, with the same inevitable results.

Vanda cœrulea is another beautiful Orchid for present blooming, and one finding favour with most growers. That it is not more amenable to good culture is generally regretted, for few growers can boast of keeping it for many years in succession in anything like a happy condition. It gets that watery spot on the leaves which afterwards turns black, eventually having to be cut out, thus leaving a permanent disfigurement. After a good deal of practice and many experiments with this species, I find that it is better to treat it rather differently from most others, and instead of trying the orthodox system of growing Orchids—namely, pots and baskets with the usual complements of crocks and surfacing with sphagnum—to plant it out in a suitable position where it is unlikely to again be disturbed. Select a house where there is a good deal of warmth during the summer months, such, for instance, as a Cattleya house, or it may be a stove, if not kept too hot; then select a position not too far from the glass, and where there is a good amount of light and air. Then procure a quantity of clinkers from the stokehole fire, which have been exposed to the weather for at least a month, place these in a lump at the selected place, and place on them the plants, keeping them well moistened several times daily until the roots are sufficiently established down in the moist crevices of the clinkers, after which they are better able to derive their own support. The winter temperature of this house may descend as low as 40° if the atmosphere is dry, without doing the least injury, though it is, of course, safer to keep it nearer 50°. It may be asked, Why not plant out in brickbats, crocks, or charcoal? to which I would reply, Because the properties emitted from a clinker have been found to be of great value to Orchidaceous plants in general, greatly assisting them both in building up new growth and warding off disease. Moreover, clinkers are clean, so far as troublesome insect life is concerned. And I would even advise that all Orchid pots and baskets be crocked with clinkers instead of the burnt earth or brick rubbish before mentioned. This planting out system is good for all Vandas; also Aërides, Saccolabiums, and Angræcums, although it may not be necessary to recommend it for others, as they are easily managed by the usual methods.

Vanda Kimballiana is another species now in full bloom. This grows well in a basket—with just sufficient material to keep it stable—suspended in the Cattleya house, where the air can circulate freely round it. Syringe it pretty freely during growth, and the roots will soon show their appreciation of this method of watering by growing out and hanging down in clusters.

Then, again, we have that sweetly pretty Miltonia spectabilis, which

always charms the visitors by its beauty and fragrance. It is perfectly natural for this species to have bulbs and leaves of a peculiar yellow tint. This also is essentially a basket Orchid, and should be grown in good fibrous peat, with little or no moss. Its roots are of a fine, wiry texture, soon permeating the peat, which, being of a less decomposing nature than moss, keeps sweet and healthy for a longer period.

Epidendrum nemorale is another elegant and useful Orchid, which does well in the Cattleya or Mexican house. Epidendrums of this class require a good deal of warmth during the growing season, and of drought when resting.

Of Cypripediums in bloom, C. Charlesworthii is the best represented, and this we know delights in cool or intermediate treatment.

ODONTOGLOSSUM CRISPUM.

THE long period that has elapsed before Odontoglossum crispum Prince of Wales bloomed, has apparently much astonished many people, and has drawn remarks from "Argus" and Mr. Robert Thompson (O. R., Aug. 1898, pp. 229-244). I can in three other instances corroborate this. Two were imported plants that I examined most carefully, which carried every bulb from the smallest seedling's first bulb to the largest. Each plant had (curiously enough) eleven bulbs. Neither had ever bloomed, there was no broken base of the spike, nor did the bulbs show the groove at the sides, which always carries the spike round the widest part. They were both very distinct plants and realised too high a figure at auction; hence my non-possession of them. The third example I purchased, in 1884, of Mr. Sander. This plant had also eleven bulbs and had never bloomed; it came from a district that does not produce grand crispums, but many fine hybrids. I have the plant still, and it has not bloomed yet; its habit has not been healthy since importing (though two of its partners do well by its side, dividing and growing equally well) as it never carries more than two years' growth, always managing to allow its three-year-old bulb to decay before the present young growth is developed; it has three leads now, whereas, when it came over, it had but one. I have no doubt that there are many such cases to be found if records are carefully kept. Odontoglossum crispum, like all things, has its great exceptions that prove the rule.

There is a time, no doubt, at which each plant is in a condition to bloom. It is peculiar, of course, that one should stay so long before it blooms, when thousands may have come and gone from the same houses. In this instance of the "Prince of Wales," it may be that Clapton did not suit it; but, immediately it went to Enfield, it bloomed. Of course, this

argument will be held to be disproved by the fact of its continually increased size of bulb annually, but that does not prove that the plant was in a condition to bloom. It may be a "shy" bloomer, like many other things, though I hope not, for such a grand form cannot be seen too often. Baron Schröder is greatly to be congratulated that he is the owner of the finest white, red and spotted crispums known; respectively, "Prince of Wales," "Baroness Schröder," and "apiatum."

Mr. Robert Thompson would confer the greatest possible benefit on us crispum growers if he would give a whole year's detailed description of the climate, temperatures, and all conditions of the Pacho region, that we could have a clear conception whereon to work. No doubt, here and there, we see them well grown, but the majority are only average, and, were reliable information chronicled, there are many who would be able to improve on their mode of culture.

De B. Crawshay.

ODONTOGLOSSUMS AT PACHO.

Mr. Robert Thompson, in answer to enquiries on a few specific points, has kindly furnished us with the following additional notes, which supplement his observations on page 244. As to the different species which grow together, he remarks that one rarely enters the crispum forest, and now the plants are so scarce that even going through the forest for days together one does not find more than one or two plants in flower. The expert peon collectors, of whom there are more than one hundred in the neighbourhood of Pacho, bring in from the forest all the plants to a given point for delivery. And the average number that each peon collects daily is not more than three plants—from twelve to eighteen a week, and rarely more than five per cent. are in flower. O. luteopurpureum is frequently found side by side with crispum in the Pacho district. This is the only crispum district with which I am acquainted. Thus the peons frequently bring in luteopurpureum with the crispums. In the same way they bring in gloriosum and Lindleyanum, both of which are very much more abundant in the crispum woods than luteopurpureum. I don't know Hunnewellianum nor Wendlandianum. It may be that these are brought with the "starry" crispums, that is, from a distinct crispum region several day's journey by mule from the Pacho region. These also come through Bogota. It has always struck me that secondary hybrids are accountable for the numerous intermediate spotted forms. But, as I have already indicated, we see far fewer crispums in flower here than you do at home. I hope to be able to give you some hints from time to time on crispum, etc., for the *Orchid Review*.

[Very acceptable.—Ed.].

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

A MEETING of the Manchester and North of England Orchid Society was held at the Coal Exchange, Manchester, on August 11th, 1898, when the following members were present :—Messrs. G. Shorland Ball (in the chair), Greenwood, Weathers, Leemann, Backhouse, Johnson, Holmes, Robson, and Mills (hon. sec.).

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed Cypripedium × Olivia (tonsum × concolor), to which a First-class Certificate was given.

Thomas Statter, Esq., Whitefield (gr. Mr. Johnson), showed Cypripedium × Excelsior, C. × Numa, and C. insigne, Green Bank variety, all of which received Awards of Merit.

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Shill), showed Odontoglossum crispum Lehmanni flowering from a very small bulb. The Committee expressed a desire to see this again when stronger.

E. J. Sidebotham, Esq., Bowdon (gr. Mr. Shiner), showed Cattleya Lueddemanniana (speciosissima).

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), showed a very good dark Cypripedium × Harrisianum superbum.

John Richardson, Esq., Hale (gr. Mr. Jenkins), showed Cattleya Dowiana aurea, very well flowered, which was awarded a Cultural Certificate.

R. le Doux, Esq., West Derby (gr. Mr. Archer), showed a wonderful plant of Aërides odoratum Ledouxianum, bearing some sixty spikes in full bloom, to which a Silver Medal was awarded.

Messrs. Charlesworth & Co., Bradford, showed a very fine plant of the rare Oncidium ornithorhynchum album (First-class Certificate) and Cattleya × calummata (Award of Merit).

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THE usual fortnightly meeting of the Royal Horticultural Society was held at the Drill Hall, James Street, Westminster, on August 9th last, when the Orchids exhibited were very few in number, though three of them gained an Award of Merit. The members of the Committee present were:—H. J. Veitch, Esq., in the chair, and Messrs. J. O'Brien (hon. sec.), E. Ashworth, H. Ballantine, H. J. Chapman, W. Cobb, De B. Crawshay, J. Douglas, J. G. Fowler, E. Hill, J. Jaques, and H. M. Pollett.

Baron Sir H. Schröder, The Dell, Egham (gr. Mr. Ballantine), received an Award of Merit for a fine Sobralia called S. Sanderiana, with flowers nearly equalling S. macrantha in size, but with sepals, petals and tube of the lip white tinged with rose, the throat orange, and the front lobe bright crimson purple. He also sent an inflorescence of Cypripedium Stonei platytænium.

G. W. Law-Schofield, Esq., New-Hall-Hey, Rawtenstall, Manchester (gr. Mr. Schill), received an Award of Merit for a fine Odontoglossum crispum Lehmanni called Schofield's variety. It had broad white sepals and petals, slightly tinged with rose, each bearing from three to five ruby-red spots, and a broad lip, which was ruby red in front of the crest, and broadly margined with white.

T. B. Haywood, Esq., Woodhatch, Reigate (gr. Mr. Salter), showed a fine spike of Stauropsis lissochiloides, an Orchid now seldom met with.

Captain T. A. Julian, Woodside, Plymouth, sent a very light form of Cattleya Warscewiczii, the flowers being blush-white slightly mottled with rose.

M. E. Zollinger-Jenny, Villa Greten, Wallishofen, near Zurich, sent Vanda Sanderiana rosea, a handsome form in which the flowers are more tinged with rose colour than in the type.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, showed a good dark form of Cattleya Gaskelliana, two plants of C. G. alba, a very fine form of Oncidium Papilio and Cypripedium × Olivia (tonsum × concolor), a very distinct hybrid, most resembling C. tonsum in shape, but of a shade of ivory white slightly tinged with rose, an Award of Merit being accorded to the latter.

Mr. James Douglas, Great Bookham, Surrey, showed a very fine form of Dendrobium formosum.

At the meeting held on August 23rd, Orchids were again sparsely represented, though several were very interesting. Only three awards were made. The members of the Committee present were as follows:—A. H Smee, Esq., in the chair, and Messrs. J. O'Brien (hon. sec.), H. J. Chapman, W. Cobb, De B. Crawshay, J. G. Fowler, T. B. Haywood, J. Jaques, W. B. Latham, H. M. Pollett, and W. H. Young.

Sir Henry Fairfax, Ravenswood, Melrose, N.B., exhibited flowers of a fine dark form of Cattleya × Hardyana, and an unusually fine inflorescence of Odontoglossum Harryanum, with two side branches and an aggregate of seventeen fine flowers, the latter receiving a Cultural Commendation.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), sent the charming little rose-coloured Saccolabium Hendersonianum, and a beautiful specimen of Platyclinis filiforme, in a 10-inch pan, bearing over a hundred of its graceful pendulous spikes of greenish yellow flowers.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, sent a ten-flowered inflorescence of an Acineta, called A. colossa, Sander, to which a Botanical Certificate was given. The flowers were of a light whitish-yellow, with a few dull purple markings towards the base of the lip, and the column pubescent.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), sent a four-flowered inflorescence of Lælio-cattleya × intermedio-flava, the flowers being rather larger than usual, and ivory-white in colour, with the front lobe of the lip light purple and undulate.

Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne (gr. Mr. Murray), sent a plant of Cattleya × Hardyana with richly-coloured flowers, and a single bloom of the handsome Odontoglossum × crispo-Hallii, described at page 10 of our last volume.

Thomas Hogg, Esq., Woodside Gardens, Paisley, N.B., sent a plant of the handsome Cypripedium × Lawrebel.

G. F. Moore, Esq., Bourton-on-the-water, Gloucestershire, sent a fine form of Cattleya Trianæ, flowering quite out of season, and a very fine Cypripedium × Godefroyæ leucochilum rather heavily marked on the dorsal sepal.

Messrs. James Veitch and Sons, Chelsea, sent four very interesting things, of which Disa × Clio received an Award of Merit. This was obtained from D. grandiflora ♀ and D. × Veitchii ♂, and thus is the reverse cross of D. × Diores, raised in the same establishment. Four plants were exhibited in the same pot, all being somewhat different, and most resembling D. × Veitchii in general character, though two had a slight flush of scarlet in the flower, and the dorsal sepal a little paler than the lateral ones, but without markings. The others were Epidendrum × radicanti-Stamfordianum (described at page 198), shown in better condition than before, and with the rooting character of E. radicans well developed; Masdevallia × Circe (M. Veitchiana ♀ × M. Schrœderiana ♂), a pretty hybrid, most like the former in shape, and dull orange in colour, with numerous brown hairs, with a purple iridescence on the sepals; and Cypripedium × Rothschildiano-villosum (villosum ♀ × Rothschildianum ♂), a pretty hybrid, with an ovate somewhat veined dorsal sepal, petals most like C. villosum, but more elongated, lip showing much of the C. Rothschildianum character, and an oblong staminode somewhat reflexed at the sides.

Messrs. Hugh Low and Co., Bush Hill Park, Enfield, staged a very pretty group, containing Cypripedium bellatulum album, C. Charlesworthii, C. Curtisii, C. Lawrenceanum Hyeanum, with one side of the lower sepal like the dorsal in shape and colour, Sobralia xantholeuca, Phalænopsis Aphrodite, Oncidium Lanceanum, Cattleya bicolor and C. Loddigesii, each

with a good six-flowered spike, Lælio-cattleya × Aurora, the rare L.-c. × amanda, and a good form of L.-c. × elegans.

Messrs. F. Sander and Co., St. Albans, exhibited a few very interesting. Orchids in a small miscellaneous group. They included the remarkable Bulbophyllum grandiflorum, a good B. barbigerum, two plants of Odontoglossum bictoniense album, one bearing three spikes, the rare Oncidium incurvum album, Cattleya velutina, a good C. Gaskelliana, C. Leopoldi, and a form of C. × intricata, prettily spotted with brown on a light rose-coloured ground.

ORCHID PORTRAITS.

CYMBIDIUM CANALICULATUM.—*Gard. Mag.*, June 25, pp. 406, 407, with fig.

DENDROBIUM PIERARDI.—*Gard. Mag.*, Aug. 13, p. 526, with fig.

LÆLIA PRÆSTANS.—*Garden*, June 25, p. 550, with fig.

LÆLIO-CATTLEYA × ADMIRAL DEWEY.—*Gard. Mag.*, Aug. 6, pp. 508, 509, with fig.

LÆLIO-CATTLEYA × INGRAMII GIGANTEA. — *Journ. Hort.*, Aug. 11, pp. 108, 109, fig. 20.

ODONTOGLOSSUM CRISPUM LEHMANNI (Schofield's variety).—*Gard. Chron.*, Aug. 20, p. 147, fig. 39.

ODONTOGLOSSUM CRISPUM LUCIANI.—*Gard. Mag.*, June 25, p. 406, with fig.

STANHOPEA MADOUXIANA, Cogn.—*Gard. Chron.*, Aug. 20, pp. 134, 135, fig. 34.

STANHOPEA RODIGASIANA.—*Gard. Mag.*, July 30, p. 492, with fig.

VANDA × MISS JOAQUIM.—*Gard. Chron.*, Aug. 13, p. 123, with plate.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

F. J. Le M. Photograph 3 appears to be a natural hybrid between Sobralia macrantha and S. xantholecua, and thus a form of S. × Veitchii. 4 may be S. leucoxantha.

De B. C. Believed to be a form of Odontoglossum ramosissmum, which is very variable.

E. F. C. It is difficult to say why Lælia anceps and others should be making growths from one or two back bulbs as well as from the leading one, but it is not generally considered a good sign. The use of a small quantity of ammonia on the pipes can scarcely be the sole cause.

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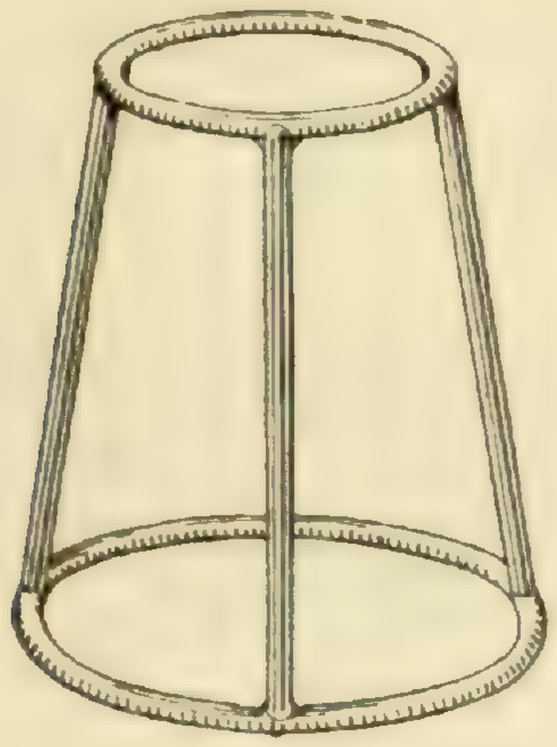

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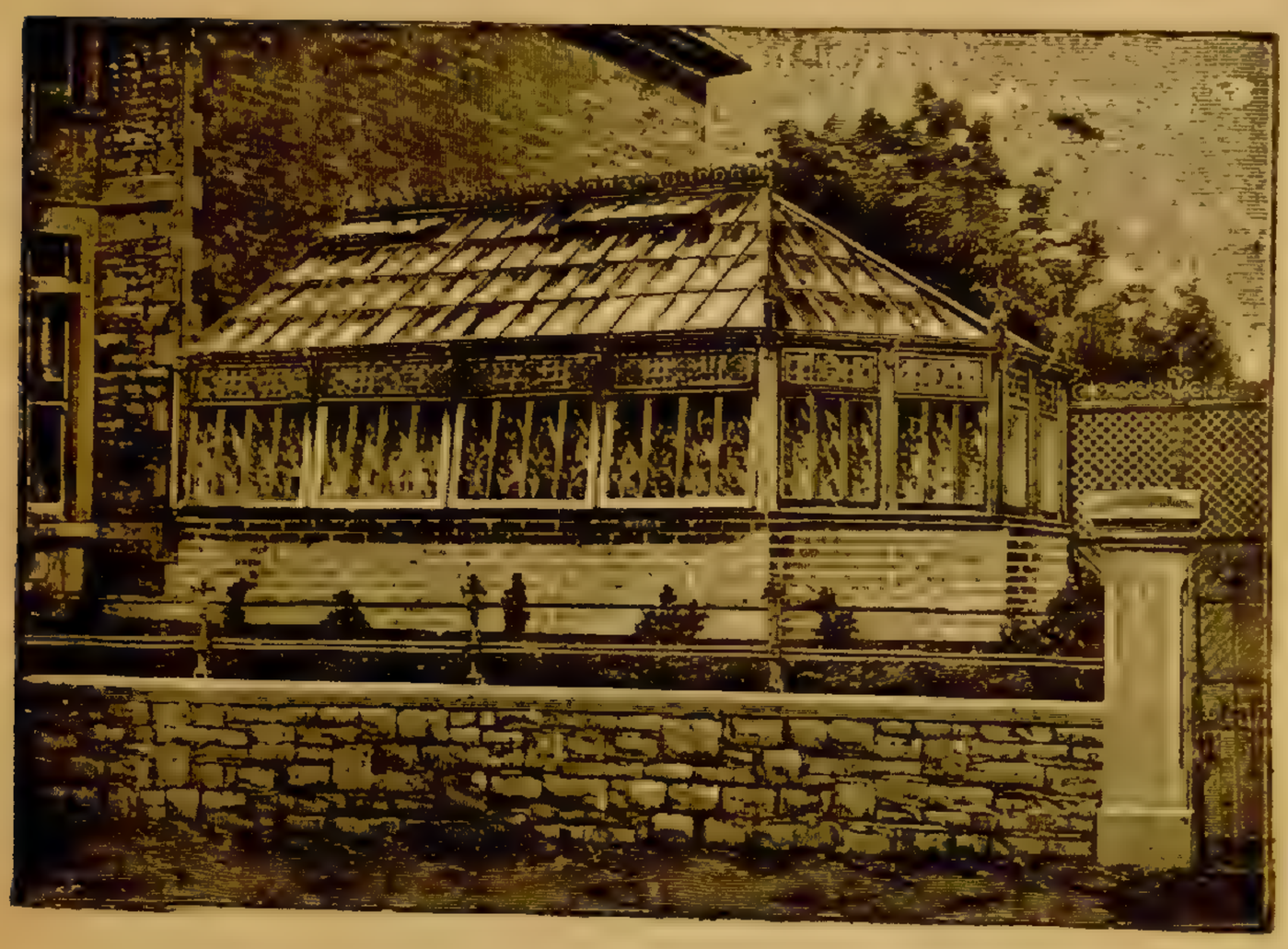

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VOL. VI.] *OCTOBER*, 1898. [No. 70.

NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, during October, on the 11th and 25th, respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The October meetings of the Manchester and North of England Orchid Society will be held on the 13th and 27th. The Orchid Committee meets at noon, and the exhibits are open to inspection after 1 o'clock.

A Lecture on the "Structure and Fertilisation of Orchids" will be given by Mr. R. A. Rolfe, A.L.S., at the meeting of the Birmingham and Midland Counties Gardeners' Association to be held on Monday evening, October 17th, at 8 o'clock p.m.

A flower of the beautiful Odontoglossum × crispo-Hallii is sent from the collection of Norman C. Cookson, Esq., Oakwood, Wylam-on-Tyne, by Mr. Murray, who remarks that the lip is more expanded and the spotting better than when it first flowered in November, 1896, and received a First-class Certificate from the Royal Horticultural Society. It is certainly very beautiful.

A very fine flower of Cattleya Warscewiczii is sent from the collection of Isaac Carr, Esq., Poolemeade, Tiverton-on-Avon. It is of excellent shape and measures eight inches in diameter across the petals, while the lip is 2½ inches across, and of a brilliant crimson-purple with the eyes in the throat pale yellow. The rest of the flower is light rosy purple.

Cattleya superba is a most beautiful species when it succeeds well, but likes rather more heat than many others. Two fine flowers are sent from the collection of F. M. Burton, Esq., Highfield, Gainsborough. A good flower of Lælia crispa is also sent, which represents another very useful species at this season.

A good flower of Cattleya Gaskelliana is sent from the collection of John Riley, Esq., Hapton House, Burnley. The plant, it is said, has been grown in the collection for twelve years and has not previously flowered, thus forming a somewhat parallel instance to those of Odontoglossum crispum mentioned in recent issues of this work.

Cypripedium or Paphiopedium × Ashburtoniæ is one of the hybrids which bloom very freely at this season, and two curious flowers are sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, by Mr. Rogers. One has the lateral sepals divided and somewhat spreading, and the other has a curious protuberance on one side of the lip, both being peculiarities occasionally met with in this genus.

A pretty light form of Lælio-cattleya × elegans is sent by Herr Paul Wolter, of Madgeburg-Wilhelmstadt, Germany. The sepals and petals are light rose-pink, with a few small spots, chiefly on the back of the former the side lobes of the lip white, slightly tipped with purple, and the fron lobe bright crimson-purple.

A larger form, with broad, slightly-spotted petals, comes from the collection of J. W. Arkle, Esq., West Derby, Liverpool. The front lobe of the lip is broad, and, together with the tips of the side lobes, deep crimson-purple. The raceme had seven flowers.

A fine spike of Aërides quinquevulnerum has been sent by Messrs. F. Sander and Co., St. Albans. It was imported from the Philippines with A. Savageanum, and the sepals and petals are each dotted with purple, and tipped with a crimson-purple blotch. It is rather rare in cultivation.

Lælio-cattleya × corbeillensis is a beautiful hybrid said to have been raised from Lælia pumila marginata and Cattleya Loddigesii, hence it has been referred as a synonym of L.-c. × Vedasti. A fine flower has been sent from the collection of E. F. Clark, Esq., of Teignmouth, who calls attention to the bright yellow median line of the lip, which is somewhat raised and corrugated, also the dark colours of the sepals and petals, as being more suggestive of C. Harrisoniæ as the second parent. In these

remarks we fully concur, and the more readily as we know that the names of these two Cattleyas are sometimes transposed in gardens. The raceme bore three flowers.

A good flower of Cattleya Loddigesii is sent with the preceding for comparison, and this was bought at one of Messrs. Protheroe & Morris' sales under the name of C. Harrisoniæ.

The old Dendrobium pulchellum, better known under its later name of D. Dalhousieanum, is a most effective plant when well grown. A photograph, showing part of three racemes, is sent by G. Lees Milne, Esq., Shaw, near Oldham.

A light form of Odontoglossum triumphans is sent from the collection of W. Thompson, Esq., of Stone, by Mr. Stevens, who remarks that it is flowering for the first time out of a batch of imported Odontoglossum crispum. Once before we received flowers of this species with a similar history, and the question arises whether in any locality the two may grow together. The two species have hitherto come from different localities, and, as there are so many opportunities of plants getting astray or mixed, we are inclined to think something of this kind may have taken place.

Odontoglossum grande Pittianum (*supra*, v, p. 348) is a beautiful yellow variety, characterised by having lost the brown markings of the typical form. A beautiful flower has been sent by Herr Paul Wolter, of Magdeburg, Wilhelmstadt, Germany. It may be termed an albino of the species.

Cypripedium insigne is already opening. A curious flower from the collection of R. H. Measures, Esq., of Streatham, has the bract developed into an ordinary leaf, the lateral sepals free above the middle, and one of the petals has an infolded side lobe on the lower side, like that of the lip, which latter is normally developed. There are two perfect anthers, but the staminode is missing. It is very curious.

Vanda Sanderiana is one of our most striking autumn-flowering species, both on account of its noble appearance and handsome markings. A most beautiful flower has been sent from the collection of J. W. Potter, Esq., of Croydon, by Mr. Young.

Messrs. F. Sander & Co. have secured from New Guinea a large importation of the handsome Dendrobium atroviolaceum, over 5000 plants having been offered for sale on September 23rd, by Messrs. Protheroe and Morris.

DIES ORCHIDIANÆ.

THE flowering of Sobralia Cattleya at Burford, as recorded at page 260, is a noteworthy event, in some respects more remarkable than that of Eulophiella Peetersiana, for though the latter is likely to prove a far more valuable horticultural acquisition, the former has puzzled some of our best growers for many years. In an account of the Burford collection, which appeared in these pages five years ago (vol. 1, p. 18), it is recorded that Mr. White had tried many plans to induce it to flower. In June, 1891, the plant was put out in the open air in full sunshine, and remained there night and day until the middle of September, when it was taken into a cold peach house at night. The plant was apparently strong enough to flower, having thirteen strong growths, upwards of nine feet in length.

At Highbury, too, it is recorded that a strong plant in the corridor grows well, but cannot be induced to flower, though every attention had been given to it for twelve years (*l. c.*, pp. 107, 289). Another fine plant has long been cultivated in the Victoria house at Kew, with no better result. The flower now produced is, we believe, the first which has yet appeared in Europe, and Mr. White must be congratulated on his success. It would be interesting to know a little more about it.

The specimen of Aërides odoratum figured at page 273 is certainly a very remarkable one, and the history of the plant is also very interesting. One would naturally have thought that in a climate where it grew so vigorously it would also have flowered, which, however, does not appear to have been the case, though in what respect the conditions were unsuitable can only be guessed, without knowing more about them. It is an Orchid which usually grows and flowers well in a warm house, under ordinary treatment, though it would take many years to produce such a fine specimen as the one now in Mr. Le Doux's collection. It will be interesting to see if it produces such a crop of flowers again next year.

The degeneration of Orchids under cultivation has been discussed on several occasions, and the numerous examples which have been cited of plants whose history can be traced back for two or three decades has shown pretty conclusively that when Orchids do degenerate it is through wrong treatment. Two very interesting cases are recorded last month, namely, Hartwegia Kienastii (p. 264) and Oncidium Kienastianum (p. 269), which have been cultivated for twenty-two and twenty years respectively since the original descriptions appeared. Probably no one expected to see them again until the Reichenbachian Herbarium is opened. It is fortunate that two more of the mysterious "types" have been recovered, even if one

proves to be a well-known old species, and the other belongs to another genus. I suspect that some curious discoveries will be made when the mysterious Herbarium is opened. There may be other Reichenbachian types of this kind in existence. A certain proportion of them has already been recovered in this way, but many died soon after they were described.

ARGUS.

THE HYBRIDIST.

PAPIOPEDIUM × LILY MEASURES.

THIS is a very pretty hybrid, raised in the collection of R. H. Measures, Esq., The Woodlands, Streatham, from Paphiopedium Dayanum ♀ and P. niveum ♂, which has now flowered for the first time. The flower sent has a scape about five inches high, and is fairly intermediate in shape and colour between its two parents. The dorsal sepal is ovate, $1\frac{3}{4}$ inches long, pale greenish-white, with about seventeen rows of minute light purple dots, which extend three-fourths of the way to the apex. The petals are oblong, $2\frac{1}{4}$ inches long, by seven-eighths of an inch broad, similar in colour to the dorsal sepal, but the minute purple dots much more numerous, especially near the base on the upper side. The lip is nearly two inches long, rather compressed, pale greenish-white, with numerous minute light purple dots extending from the mouth half way to the apex; also on the infolded side lobes. The staminode is short and broad, strongly reticulated in the centre with green, the rest being white, slightly tinged and spotted with purple. The petals and dorsal sepals are shortly fringed. Mr. Measures remarks that he has had a lot of this cross, but never succeeded in growing it satisfactorily or flowering it until now, and he thinks it will be a beauty when flowering in cooler weather.

GYMNADENIA CONOPSEA?

"IT was stated by Hausmann, in his *Flora von Tyrol*, 1854, that Gymnadenia conopsea, R. Br., varies very much in form as well as in colour; even a form without a spur is mentioned. Should not the plant found near Arisaig be one of these forms of Gymnadenia conopsea?"—O. F., Lehenhof, in *Gard. Chron.*, Sept. 10th, p. 200.

This question arises out of the note on Gymnadenia × conopseo-albida, which originally appeared at page 238 of the present work, but I think sufficient details are given to enable anyone to answer it in the negative. One might as well ask, is it not a variety of G. albida?—Or, is it not a new British species? True, there is also the plant from the Austrian Alps, and if "O. F." will read the note again I think he will agree that it is a natural hybrid, as stated. If not, nothing that I can say will convince him, and here the matter must end.

R. A. R.

ORCHIDS AT ENFIELD.

CLAPTON has been so long associated with the name of Messrs. Hugh Low and Co. that it seems difficult to separate them. Leases, however, have a habit of running out, and, owing to this cause, the firm have now removed entirely to their newer establishment at Bush Hill Park, Enfield, where, in consequence, extensive additions have recently been made. The other day we had the pleasure of inspecting this establishment and embraced the opportunity of taking a few notes.

About thirty houses are devoted to Orchids, some of them being of great length, and filled with healthy plants ranging from newly imported stuff up to those fully established; the stock of those kinds most in request being enormous. Commencing with the Phalænopsis house, which is built in two divisions side by side without a dividing wall, on the Belgian plan, we found the plants in excellent condition, some of the leaves of P. Schilleriana being of great size. Examples of P. amabilis and Aphrodite were nicely in bloom, also many plants of Miltonia Roezlii. We also noted a fine hybrid between Cypripedium Rothschildianum and Dayanum, most like the former in many respects, but lighter in colour, and with the long cilia and staminode approaching the latter.

In the Dendrobium house we found D. Dearei well in flower. Vanda Hookeriana planted here grows well, but suffers from the general complaint of not flowering. In an adjoiniug Cypripedium house we found a lot of C. × œnanthum superbum in bloom, and very effective it is, also the fine C. × enfieldense, × picturatum, Chamberlainianum, × Io, × javanico-superbiens, × Charles Canham, × Godefroyæ leucochilum, the beautiful bellatulum album, callosum, × T. W. Bond, and others, forming a very pleasing display. The rockwork in the next house was gay with a combination of Odontoglossum crispum, Lindleyanum, Brassia verrucosa, Disa grandiflora, Oncidium crispum, macranthum, and others. This method of arranging Orchids in flower, with a few graceful foliage plants, is most effective wherever met with.

Next we visited two long Odontoglossum houses, in which we noted some good O. Harryanum in bloom, O. Edwardii throwing up a very fine panicle, a fine O. × Coradinei with eleven flowers, a lot of O. Pescatorei in bud, and among numerous examples of O. crispum in flower was one with clear yellow spots on the petals, almost the counterpart of O. c. xanthotes. After passing through a large house of Cattleyas, and others, we were again among the Odontos, and noted a good O. Insleayi with two spikes, and a fine batch of Miltonia vexillaria, of course not now in flower. In the Lycaste house we found L. Rossiana in flower, also plants of Trichopilia fragans, after which we passed through a house containing

Odontoglossums, newly imported Lælias, and other allied plants.

We now arrived among the Cattleyas, the first house containing a fine lot of C. Loddigesii in flower, some good C. Gaskelliana, the variable C. Eldorado, C. Mendelii, Lælia crispa, Cycnoches chlorochilon, the handsome Oncidium Lanceanum, Papilio, and Kramerianum, Cœlogyne Massangeana, and others not noted. In the next three Cattleya houses we observed in flower a fine lot of C. Gaskelliana, a most useful plant at this season, and many C. Eldorado; also Mormodes pardinum and its clear yellow variety unicolor. Passing into the next we observed a very fine Cattleya bicolor, the beautiful C. Gaskelliana alba, C. Loddigesii with five-flowered spike, C. Leopoldi (which came home among C. granulosa), Lælio-cattleya × amanda, the interesting Brasso-cattleya × Lindleyana well in flower, many Oncidium Papilio, and several Odontoglossum Krameri. Here Mr. Low pointed out some good plants of Cymbidium Tracyanum producing upright roots, which is one of the characters by which it may be recognised. In an adjoining house we noticed a number of Cattleya seed pods.

We now came to two more Cypripedium houses, one chiefly devoted to C. Lawrenceanum, and the other containing a miscellaneous collection, among which many flowers of C. Curtisii, Charlesworthii, and tonsum were observed. Here also were many Vanda cœrulea, a stray flower of Angræcum sesquipedale, and a good Angræcum articulatum.

Some of the houses were barely finished, and the plants have hardly had time to settle down in their new quarters, but there was much of interest to be seen in flower. The arrangements for heating, ventilation, and other matters have been well carried out, and the establishment promises to become more interesting than ever.

ORCHIDS AT ST. ALBANS.

At all seasons of the year there are many features of interest to be found in the extensive establishment of Messrs. F. Sander & Co., at St. Albans, both among the imported plants and the collection of hybrid seedlings, which every year become more numerous. The following notes were taken in the early part of September, and, it should be explained, are given in the order in which we visited the different houses.

On entering our attention was immediately attracted by a fine plant of Cattleya Leopoldi, bearing a scape of seven very large flowers, and near by were examples of C. velutina, Harrisoniana, Warscewiczii, and the handsome Calanthe Sanderiana, an African species bearing some resemblance to C. Masuca. We were now among the seedlings, a most interesting lot, which require several houses for their accommodation, and

here we noticed some plants of the handsome Epiphronitis × Veitchii in flower, which were raised in the establishment. Cattleyas and Cypripediums are particularly numerous, and among the latter were some with curiously striped leaves, and others nearly all white, yet the plants appeared quite healthy. Many hybrids were in flower, those noted being some fine C. × Harrisianum superbum, C. × Smithii, and some seedlings from C. Lawrenceanum × C. superbiens bearing a green scape, the flowers not yet expanded. Among species in flower were some good forms of C. Charlesworthii, Dayanum, tonsum, callosum, and others. Many fine Cattleya pods were also noted, with flowering examples of Zygopetalum crinitum and Gautieri, and a batch of Stenoglottis longifolia, of which many were in flower. Epidendrum radicans was flowering freely in the adjoining corridor.

Passing into a warm Dendrobium house we found a fine batch of D. Johnsoniæ and spectabile, also a curious species with flat pseudobulbs, and another with glaucous leaves, imported with them, but whose identity has yet to be made out. Both appear new to cultivation. In an adjoining house, Phalænopsis violacea was in flower, and in passing through the next three or four divisions we noted the handsome Cœlogyne Sanderiana producing a fine spike, Mormodes pardinum and its variety unicolor, a fine batch of Dendrobium atroviolaceum, which Messrs. Sander have succeeded in importing in quantity, and flowering examples of Cypripedium × javanico-superbiens.

Among Masdevallias we noted in flower M. Chimæra, infracta in buff and purple forms, floribunda, × Courtauldiana, and a pretty little seedling from M. Veitchiana × Wageneriana with somewhat flesh-coloured flowers. Near by were Restrepia maculata, Physosiphon Loddigesii, the brilliant Epidendrum vitellinum, and others.

A pretty little bank of flower at the end of one of the houses was made up chiefly of examples of Odontoglossums aspirhinum, crispum, bictoniense, Rossii, Hallii and auriculatum, Oncidium ornithorhynchum and its variety album, Cochlioda vulcanica, Lycaste leucantha, and Lælia pumila. In an adjoining house we noted a fine plant of Cœlogyne Massangeana bearing many fine spikes; one of them which was counted bore twenty-seven flowers. Here also were many flowering examples of Dendrobium Phalænopsis and bigibbum. The next division contained Sobralia xantholeuca, and many flowering examples of Cattleya Gaskelliana, and in a succeeding one we saw some good examples of C. Warscewiczii, and a nice lot of Odontoglossum Krameri.

Among the Sobralias, a fine form of S. macrantha, called Holfordi was pointed out, and Mr. Sander's son remarked that it came home with S. xantholeuca (also in flower here), together with hybrid forms, including

S. × Wiganiæ. In the next house we found many examples of Cattleya Harrisoniana in flower and bud, and others of C. velutina and Epidendrum prismatocarpum.

We now came to the house containing two fine plants of Arachnanthe Lowii, and found one bearing two and the other four long spikes of flowers, the two or three basal ones on each spike being deep orange-coloured, as usual. Why these flowers should be so different in colour from the remainder still, we believe, remains a mystery.

In an adjoining house was a batch of plants of the curious Bulbophyllum Ericssoni, many flowering examples of Cattleya Leopoldi, one with a spike of thirteen fine flowers, a nice lot of C. Loddigesii and Harrisoniana, and a pretty hybrid derived from Cattleya intermedia and Lælia harpophylla, most resembling the former, but the sepals and petals tinged with light yellow, and the front lobe of the lip mottled with light purple. A house containing some healthy plants of Phalænopsis comes last on our notes, and here in flower were examples of Angræcum Scottianum and Vanda cœrulea, together with the handsome Oncidium Lauceanum.

Of course our notes are not complete. To have included everything, even at this season, would have taken up too much space, but we managed to note down the principal objects of interest, and from them a magnificent group might have been selected.

ODONTOGLOSSUM CRISPUM AT PACHO.

(THE NATURAL CONDITIONS UNDER WHICH IT GROWS).

Your correspondent, Mr. De B. Crawshay, in the September number of the *Orchid Review* (page 213), has asked me to give a detailed description of the climate, temperature, and other conditions of the Pacho region. The following general remarks may be interesting.

On the slopes of the Cordillera the altitudinal distribution of Odontoglossum crispum ranges from about 6,000 to 9,000 feet above sea-level. The temperature at 6,000 feet ranges from 46° to 75° Fahr. At this elevation during the rainy seasons, which embrace more than six months of the year, the temperature averages from 50° to 60° daily. In the dry seasons the *minimum* is about 44°, and the *maximum* 75°. The temperature at 9,000 feet averages from 6° to 10° less than at 6,000 feet. And at this elevation in the dry season the temperature frequently falls to freezing point. The greatest altitude at which I have found O. crispum was 10,200 feet. The plants were on a rock on the side of a lofty spur of the Andes. At this great height ice is frequently found. There plants were growing on a

clearing in the forest, and therefore fully exposed to the sun during several hours of the day. At this height, as well as throughout the Pacho crispum region, humid, chilly, interchanging fogs prevail for a few hours daily in the rainy season. From time to time these bleak fogs are dispersed by strong currents of wind, and thus gleams of sunshine alternately play upon the plants.

The rainfall in this region averages from 15 to 20 inches monthly for six months yearly—occasionally the rainy seasons are much more prolonged. It is difficult to realise the extraordinary extent of rainfall and humidity under which crispum flourishes. I may mention that on one occasion I turned a running stream of water upon 500 of these plants for several hours daily for six weeks, and this, too, in the rainy season, but the effect upon the plants was *nil*.

In the city of Bogota, 8,600 feet above sea-level, crispum is grown to a considerable extent, and most successfully, in baskets suspended to the sides of houses. The average daily temperature here is about 55°, seldom below 40° or above 70°.

From the above remarks it will be observed that O. crispum accommodates itself to a wide range of climatic conditions, and this, doubtless, is the reason why the plant is so amenable to successful cultivation in Europe. I may add that I have always been impressed with the desirability of imitating in cultivation one essential characteristic of the plant in a state of nature; that is, after excessive watering for a month or two at a time, water should be withheld for a few days.

ROBERT THOMSON.

Forest Hill.

ORCHIDS AT SOUTHGATE.

THE well-known establishment of Messrs. W. L. Lewis and Co., at Chase Side, Southgate, has recently seen a partial change in its proprietorship, being now carried on under the name of Messrs. Stanley Mobbs and Ashton, the latter gentleman having been one of the partners for several years. The other day, we had the pleasure of looking round the nursery, and although at about the dullest season of the year for Orchids, we found many interesting things in bloom.

In the first house visited, we found a fine batch of imported Lælia pumila, now nicely established and beginning to bloom, and here a well-flowered plant of the rare little Lælia longipes alba attracted our attention. A good batch of Oncidium tigrinum in spike was also noted, together with a dozen well-flowered plants of O. trulliferum, one being an immense

specimen with bulbs a foot long, with very strong spikes yet in bud. Others in flower were the rare and distinct O. unicorne, O. flexuosum, O. Cebolleta, the handsome O. incurvum, and O. ornithorrhynchum, Vanda Kimballiana, Odontoglossum hastilabium, Miltonia Roezlii, and Physosiphon Loddigesii.

An adjoining house contained a lot of Odontoglossum crispum, a few being in flower, O. Lindleyanum, a batch of O. maxillare, some being in in bud, the handsome Oncidium prætextum, a large batch of O. concolor, many being in bud, good flowering examples of the remarkable O. dasytyle, with dark beetle-like crest, also the handsome O. spilopterum.

Turning into the large Cattleya house, we found a good show of bloom, including a nice lot of C. Gaskelliana, which is extremely useful at this season, several good C. Warscewiczii, a nice lot of the distinct C. velutina, C. v. magnifica being especially large and richly coloured. The two species, however, which made the best show, were C. Loddigesii and the allied C. Harrisoniana, many of which were flowering very freely. As these two species have been somewhat confused, it was interesting to compare the series together. Every plant of C. Harrisoniana had a deep yellow corrugated crest, and narrower darker petals, while C. Loddigesii had a paler smooth lip, and lighter sepals and petals. Some forms of this open nearly white at first, gradually becoming darker, and a few are spotted. It has also more flowers on the raceme, up to as many as nine, while the greatest number of C. Harrisoniana seen was four. Mr. Ashton states that they import them from quite different localities, and that the names are sometimes transposed in the trade. A fine plant of Acineta Barkeri was suspended in this house, the racemes not yet expanded. A batch of Lælia autumnalis was also showing well for flower.

We next inspected the smaller houses, which formed the original nursery. The first was chiefly devoted to Cattleyas and Cypripediums, and here we noted many pods on the former genus, affording evidence of the experiments in hybridisation which are carried on. Among the seedlings, we observed healthy plants raised from a cross between Cattleya Rex and C. bicolor. Among plants in flower, were the fragrant C. Eldorado, Oncidium Papilio and Lanceanum, Cypripedium Victoria-Mariæ, C × Io., C × picturatum, some good C × œnanthum, including one with a twin-flowered scape, and several Selenipediums.

The next house was devoted to a batch of imported Cattleya labiata, and an adjoining Warm house contained a good batch of Dendrobium Phalænopsis, just commencing to flower. Here also were many Cattleya Loddigesii, both in flower and in bud, also Mormodes pardinum, and its variety unicolor. A small Phalænopsis house contained a number of healthy plants, which are stood over saucers of water on a central pillar on

which the plant receptacle is placed. An unshaded part of the house is devoted to Dendrobiums, and here D. formosum succeeds very well. A Cool house contained batches of various useful Cypripediums and various imported things. Before terminating a very pleasant visit, we learnt from Mr. Ashton that it is intended to put up another house chiefly for Odontoglossoms, for which greater accommodation is required.

THE GRANGE.

The Grange, Southgate, the residence of J. Bradshaw, Esq., is the home of a choice little collection of Orchids which is frequently represented at the Drill Hall meetings. Finding ourselves in the vicinity, we called, and were fortunate enough to find Mr. Bradshaw at home—in fact, busy in his garden, and we were soon among the Orchids. Odontoglossums are the acknowleged favourites, and a long house is filled with a collection of the various kinds, all in excellent health. The house is constructed on modern principles, and shaded with lath roller-blinds, which are found to answer their purpose admirably. We also found a number of Murray's Patent Orchid Stands in use for elevating the plants, and Mr. Bradshaw expressed himself as very pleased with them. It was the wrong season to find much in flower, but we found several good forms of Odontoglossum crispum, and a fine O. luteopurpureum, while others were throwing up their spikes.

The Cattleya house also contains a choice selection, both of species and hybrids, and these, too, were in robust health, showing that they are well cared for. Several plants of Cattleya × Mantinii were developing fine sheaths, from which some good flowers may soon be expected. Lælio-cattleya × Thorntoni was also producing a fine sheath, and had previously borne a truss of its handsomely-fringed flowers. Among plants of Cattleya labiata showing for flower, one of the variety R. I. Measures was pointed out as one of the most beautiful, on account of the beautiful pink veining of the lip, which has such a pleasing effect on the white ground. The handsome Oncidium tigrinum was flowering well here.

In another house, we found a very nice lot of Cymbidiums, not now in flower, though the rare C. grandiflorum (Hookerianum) was throwing up a fine spike. There were also two plants of C. Tracyanum, the yellow C. Lowianum concolor, C. × Winnianum, also C. × eburneo-Lowianum and the reverse cross. Dendrobium infundibulum here was nicely in flower. These are only a few notes taken during a rather hurried visit about the end of August, which is about the dullest season of the year so far as Orchid flowers are concerned. Many choice varieties, however, were observed in various stages of growth, and the collection generally bore evidence both of careful selection and excellent culture, under which conditions the results cannot fail to be satisfactory.

ORCHIDS IN SEASON.

If April, as we once said, witnesses the general awakening and brings with it renewed activity in the vegetation of our favourites, October forms, for the majority of them, the beginning of their resting period. The amount of daylight becomes gradually less, the sun loses its summer intensity, and the nights become cooler. All seems to indicate the return of the dormant period. As regards flowering, however, October always brings with it the first autumn stars, and our houses will be ornamented by their flowers in gradually increasing numbers.

If we again take our monthly glance round, we shall find that several interesting plants will soon be in season. The Warm department, which has for some months previous been rather dull, will soon regain its beauties, and several fine plants are already in flower. First, we may mention the handsome Dendrobium Phalænopsis, and its variety Statterianum, also D. formosum, which are among the most effective plants we possess. The brilliant Cattleya superba is now blooming; also the free-flowering Sobralia sessilis and Lowii. Catasetums and Cycnoches seem now to be in their full season. Vanda sauvis and tricolor are still in flower, and so also are several Cypripediums. As regards the latter plants, we are now reaching the beginning of their great flowering period, which always lasts well into the following summer. Several are already in bloom, as C. × Adonis, × Ashburtoniæ, Curtisii, Charlesworthii, × Io, Victoriæ-Mariæ, and amongst the succeeding ones are C. × Arthurianum, × œnanthum superbum, × Leeanum; and we might mention also several Selenipedes, which are now sending forth their spikes, viz., S. × calurum, × cardinale, caricinum, × conchiferum, × Sedeni and its varieties, candidulum, and porphyreum.

Several other interesting plants will remain in good condition for a part of the coming month, a few of them being Angræcum Scottianum, bilobum, Kirkii, the free-blooming Galeandra Batemanii, Rodiguezia secunda, Sphathoglottis plicata, and S. Vieillardii. Others are also showing, amongst which we find Angræcum Humblotii, Gongora armeniaca, Dendrobium Dearei and superbiens, a few early Calanthes, and Phalænopsis.

The Intermediate department has been the most gaily decorated one during our summer months, and is still pleasing to see. Cattleyas, more than any other plants, have contributed to its continuous ornamentation. The long-bulbed section ought now to be in its full beauty, especially C. Loddigesii and the allied C. Harrisoniana. C. Forbesii and velutina are very distinct. C. Bowringiana and its variety violacea are very handsome, while C. Dowiana aurea provides a beautiful contrast. C. labiata will also commence its glorious autumn display. Oncidium ornithorynchum is very pretty with its numerous flowers, also our autumn-blooming Miltonias.

Among other interesting species in flower or bud may be mentioned the distinct Epidendrum (Barkeria) Lindleyanum, Cattleya Dormaniana and granulosa, Lælia Perrinii, the Mexican Lælia anceps and its varieties, as well as L. autumnalis, Maxillaria grandifolia and venusta, Miltonia Clowesii, and the useful Oncidiums tigrinum and varicosum, the curious Gongora galeata, Lycaste Dowiana, Vanda cærulea, Cœlogyne fimbriata, and various others.

Now passing to the Cool house, we find the handsome Odontoglossum grande, Oncidium incurvum, Sphathoglottis Fortunei, Stenoglottis fimbriata and longifolia are forming a charming display, and valuable in this respect is the handsome Dendrobium chrysanthum.

Amongst those showing for flower are several Pleiones, namely, præcox, maculata, lagenaria, and Reichenbachiana. Cypripedium insigne is now progressing rapidly, and some of the cool Oncidiums are also throwing up spikes.

Many are the intermediate plants which could be grown in the Cool house during the summer months, and which will flower quite freely under cooler treatment. As a matter of fact, many plants in bloom would last much longer if they were removed to a cooler and drier atmosphere, with little, if any, harm resulting to the plants.

ODONTO.

NOVELTIES.

PLEUROTHALLIS RUFA, Rolfe.—A Mexican species of the section Aggregatæ, allied to P. vittata, Lindl., which flowered in Messrs. Seeger and Tropp's Nursery, East Dulwich, in June, 1890, and subsequently elsewhere. The flowers are dull brownish red with a brown lip.—*Kew Bulletin*, 1898, p. 192.

PLATYCLINIS RUFA, Rolfe.—A species allied to P. uncata, Rolfe, but having reddish-brown flowers, a colour very unusual in the genus. It flowered in the Royal Botanic Gardens, Glasnevin, in February, 1894. The precise locality is not known.—*l.c.*, p. 192.

DENDROBIUM CYMBIFORME, Rolfe.—A Sumatran species of the section Pedilonum, allied to D. hamatum, Rolfe, which flowed in the collection of M. L. Kienast, of Horgen, near Zurich, in April, 1896. The flowers are straw yellow striped with purple.—*l.c.*, p. 192.

DENDROBIUM HIRTULUM, Rolfe. — A species introduced with D. infundibulum, Lindl., which flowered in the collection of H. Grose-Smith, Esq., The Priory, Ryde, I. of Wight, in March, 1898. It is allied to D.

stuposum, Lindl., but has bright yellow flowers with a number of red-brown streaks on the sides of the lip.—*l.c.*, p. 192.

BULBOPHYLLUM SPECTABILE, Rolfe.—An Assamese species, which flowered in the Royal Botanic Gardens, Glasnevin, in May, 1896. It is allied to B. striatum, Rchb. f., but has flowers three times as large. The colour is pale green with numerous deep brown spots, which are arranged somewhat in lines.—*l.c.*, p. 193.

ERIA LATIBRACTEATA, Rolfe.—A species of the section Hymeneria, allied to E. bractescens, Lindl., which was introduced from Borneo by Messrs. F. Sander & Co., and flowered in their establishment, at St. Albans, in July, 1895. The flowers are pale whitish-yellow, the petals veined with pale pink, the side lobes of the lip maroon at the apex.—*l.c.*, p. 193; *Bot. Mag.*, t. 7605.

CŒLOGYNE PULCHELLA, Rolfe.—A species allied to C. longipes, Lindl., but having pure white flowers, with two sienna-brown blotches on the lip and darker keels. It was introduced by Mr. J. W. Moore, Eldon Place Nursery, Bradford, with whom it flowered in March last.—*l.c.*, p. 194.

EPIDENDRUM ORGANENSE, Rolfe.—A native of the Organ Mountains, Brazil, whence it was introduced, among Sophronitis grandiflora, Lindl., by Messrs. F. Sander & Co., with whom it first flowered in July, 1891. It is allied to E. calamarium, Lindl., but is dwarfer in habit, and has dull yellow sepals and petals, the former much marbled and streaked with purple-brown behind, and the lip whitish with nine purple radiating lines round the crest.—*l.c.*, p. 194.

LYCASTE DYERIANA, Sander.—A Peruvian species introduced by Messrs. F. Sander & Co., St. Albans, and exhibited at the Royal Horticultural Society's meeting on July 9th, 1895, when it received a Botanical Certificate. It has a pendulous habit, glaucous leaves, and green flowers.—*l.c.*, p. 195.

CHONDRORHYNCHA ALBICANS, Rolfe.—A native of Costa Rica, which flowered in the collection of the Hon. Walter Rothschild, Tring Park, in June, 1896. It is allied to C. Lendyana, Rchb. f., and has white flowers faintly tinged with green.—*l.c.*, p. 195.

SIEVKINGIA REICHENBACHIANA, Rolfe.—A native of the Western Andes, at 1,000ft. to 2,000ft. elevation, introduced by Mr. F. C. Lehmann, and flowered in the collection of Sir Trevor Lawrence, in 1896. It is allied to S. fimbriata, Rchb. f., but has pale yellow sepals, and deeply-fringed deep yellow petals and lip, with many red-purple spots at the base of the latter. —*l.c.*, p. 195.

STANHOPEA IMPRESSA, Rolfe.—A species allied to *S. inodora*, Lindl., which flowered in the collection of the Hon. Walter Rothschild, Tring Park, in June, 1896. The flowers are light buff yellow, with a few traces of purple spotting on the sepals and petals, and the base of the lip orange-yellow. It is a native of the Western Andes.—*l.c.*, p. 196.

MAXILLARIA ELEGANTULA, Rolfe.—A species introduced with M. Sanderiana, Rchb. f., by Messrs. F. Sander & Co,, and flowered in their establishment, at St. Albans, in October last. It is allied to M. grandiflora, Lindl., and has the sepals and petals nearly white at the base, and brown-purple towards the apex, spotted with dark purple-brown; and the lip yellow margined with purple at the base.—*l.c.*, p. 196.

MAXILLARIA DICHROMA, Rolfe.—A species allied to M. venusta, Lindl., but with smaller white flowers, which are veined and suffused with light purple on the lower half of the petals, and the lip margined with the same colour. The history is the same as that of the preceding species. An albino of the species has since flowered at St. Albans.—*l.c.*, p. 197.

TRICHOCENTRUM ALATUM, Rolfe.—A Colombian species, introduced by Mr. Millican, and flowered in the collection of Sir Trevor Lawrence, in June, 1895. It is allied to T. fuscum, Lindl., and the flowers are white except the basal two-thirds of the lip, which is deep yellow with seven light red veins along the centre, and the spur, which is yellowish.—*l.c.*, p. 197.

ONCIDIUM GRACILLIMUM, Rolfe.—A Peruvian species, allied to O. luteum, Rolfe, but with a narrower bifid lip. The flowers are yellow with a few very pale brown markings at the base of the sepals and petals and around the crest. It flowered in Messrs. F. Sander & Co.'s Nursery in April, 1896.—*l.c.*, p. 197.

SARCANTHUS HONGKONGENSIS, Rolfe.—A Hong-kong species, introduced by Mr. Ford, and flowered at Kew in June, 1893. It is allied to S. filiformis, Lindl., and has pale lilac flowers with the column and front of the lip bright purple.—*l.c.*, p. 198.

JENMANIA ELATA, Rolfe.—A remarkable new genus, which was sent from Trinidad by Mr. Prestoe, and flowered at Kew in September, 1870, after which it was lost sight of until dried specimens were collected on the Pomeroon and Demerara Rivers, British Guiana, by Mr. Jenman. It is a tall, terrestrial plant, with radical leaves much like those of Neuwiedia, and yellow flowers, over an inch long, and arranged in a lax panicle. It is allied to Corymbis, but has the base of the lip adnate to the column.—*l.c.*, p. 198.

SOBRALIA LUTEOLA, Rolfe.—A species which flowered in the collection of Pantia Ralli, Esq., Ashtead Park, Epsom, in March, 1896. It is allied to S. suaveolens, Rchb. f., and has light yellow flowers with rather darker nerves on the lip, and a few traces of brown between the keels in front. The exact habitat is not recorded.—*l.c.*, p. 199.

HETÆRIA SAMOENSIS, Rolfe.—A Samoan species, allied to H. Whitmeei, Rchb. f., described from a dried specimen in the Cambridge University Herbarium, collected by Mr. Walter in 1875.—*l.c.*, p. 199.

PAPHIOPEDIUM BELLATULUM ALBUM.

THE annexed figure represents the beautiful Cypripedium or Paphiopedium bellatulum album, which was described at page 207 of our third volume. It is from a plant in the collection of O. O. Wrigley, Esq., Bury, and had been open for about a month when the photograph was taken. It is, of course, reduced in size, as the flower measured $2\frac{3}{4}$ inches in diameter. Mr. Wrigley remarks that the plant is in perfect health, but he finds that it requires the greatest care in watering, or it is liable to damp. It is a true albino, as the scape, bract, and ovary are entirely green, and every trace of purple has also vanished from the leaves. It has, however, a very good constitution, and we have seen good plants of it in several collections, all of

FIG. 15. PAPHIOPEDIUM BELLATULUM ALBUM.

which, we believe, are subdivisions of the original clump, for we have not heard of the discovery of other specimens in the various importations received from the Shan States. It first flowered in Europe in the collection of Sir Frederick Wigan, Clare Lawn, East Sheen, in June, 1895, when it received a First-class Certificate from the Royal Horticultural Society, Of its value for hybridising purposes we cannot yet speak, though it has already been utilised to some extent as a pollen parent, and one seedling is reported to have already flowered (see page 220), though the report seems incredible, and we should like to receive the exact particulars.

BOTANICAL ORCHIDS AT KEW.

We must not omit our monthly notes on Botanical Orchids at Kew; for some of these little beauties, which are so interesting and which are, unfortunately, so seldom seen in cultivation, are always to be found there. The Cool house, especially, always contains a selection of these gems, several of which must be mentioned this month. The very curious Disa polygonoides is very well grown, a good clump bearing about ten spikes, covered with numerous small flowers of a reddish-orange colour. Another certainly striking plant is Houlletia Brocklehurstiana, bearing a fine spike with nine or ten beautiful flowers, of a brownish colour, and daintily marked with black spots, the lip being very pretty in shape and darker in colour. This plant seems to succeed splendidly, grown in baskets in the Cattleya house, but requires a very good rest.

Platylepis glandulosa is a curious South African species now in bloom. Scaphosepalum ochthodes is a free flowering species formerly referred to Masdevallia. Epidendrum bracteatum is an interesting Brazilian plant, which lasts for a couple of months in perfection, as also does Satyrium carneum when kept dry. The small Trichopilia hymenantha and Zygopetalum stapelioides are both worth growing.

Only a few species amongst the warm kinds are to be seen, namely, Dendrobium Johannis, an Australian species bearing a spike of small, brown flowers, the sepals and petals being more twisted than usual. Catasetum Hookeri is a very distinct species with nearly globose green flowers. Polystachya laxiflora is still in flower, and has been so for no less than ten weeks. This West African species deserves more general cultivation. Listrostachys subulata and Mystacidium distichum are two curious little species of the Angræcum group, but, unfortunately, their small white flowers do not last long.

In conclusion we ought to mention that the handsome Coryanthes maculata, which flowered previously, and which was reported in the Review last month (page 260), is now showing another spike with four buds, which are nearly open at the moment of writing. This plant has furnished no less than six spikes, and seems to do extremely well in the new Nephenthes house, where the splendid Eulophiella Elisabethæ, Grammatophyllum Rumphianum, and Grammangis Ellisii have flowered.

The new Orchid houses are rapidly approaching completion, and it will be interesting to see how far the alterations made prove beneficial to the plants.

Odonto.

ORCHIDS AT NORTH EASTON, MASS., U.S.A.

MR. OAKES AMES is at present one of the leading botanists and Orchid amateurs in the United States, and a devoted lover and promoter of Orchid culture. Within the last few years he has accumulated a remarkable collection, which is steadily increasing as facilities offer for acquiring new and desirable species, and hybrids ot merit, not already in stock.

The collection embraces nearly one hundred genera, and is especially rich in Cypripedia, of which alone nearly three hundred and fifty species and hybrids are grown; among them a fine series of hybrids of the concolor section, as C. × Arnoldiæ, × Annie Ayling, × Chapmanii, × Cowleyanum, × Evenor, × Gertrude Hollington, × Mawoodii, × Marchioness of Salisbury, × microchilum, × Miss Minnie Ames, × Georgeanum, × Mrs. E. V. Low, &c.; with a choice selection of other rare hybrids, such as × Arthurianum pulchellum, × Aspasia, × Chamber-Leeanum, × Deedmanianum, × Frau Ida Brandt, × Harrisander, × Massaianum, × Oakes Ames, × Neptune, × W. R. Lee, × Youngianum superbum, and numerous other good things; a good suite of C. insigne varieties—Sanderæ, Laura Kimball, and five others of the yellow varieties; also a fine lot of choice seedlings of his own raising, which promise startling results in the near future. Selenipedium is also well represented, covering nearly every distinct species and hybrid up to date.

The plants are all in excellent condition, and are grown under cool treatment, in a shallow compost, consisting of chopped sphagnum moss and Osmunda fibre, thus ensuring free drainage. The compost is kept moist at all times, and copious syringing overhead is given daily during bright weather. Air is freely admitted by both top and bottom ventilators night and day during summer, thus keeping up a free atmospheric circulation at all times, and, as a result, the damping off of growths, even among the concolor section, is a thing unknown in the collection.

Shading consists of a thin coat of white paint applied to the glass, in preference to canvas shading.

The Cattleyas and kindred genera are treated much after the method used for Cypripediums. Air is freely admitted, and syringing overhead freely indulged in, with the best possible results, as is shown by the clean, healthy vigour of the plants, and the absence of scale, thrip, and other pests. During the winter months the shading is completely removed, and the sun allowed free access. A temperature of 55° to 60° F. is given by night, and allowed to rise ten degrees higher during the day.

The Cool Orchids are grown in a shaded north house, and though the hot summer weather in America is a serious drawback to the successful culture of the Odontoglossum crispum section and Masdevallias, yet the

plants show a remarkable state of vigour, and are making up in interest at present what they have suffered during the past few hot months.

Miltonia vexillaria is grown here in quantity for cutting, and is at present making a gorgeous display, each growth producing two or three fine spikes of bloom.

One of the leading features of the collection is the botanical Orchids; these are great favourites of Mr. Ames, and no pains has been spared to make this section as complete as possible. They are certainly very interesting when grown to perfection, as they are here.

Hardy Orchids receive also due consideration, and at the new "Oakes Ames" Botanic Garden—comprising over one hundred acres of ground—fitting locations have been selected to make their culture an assured suecess, and large patches of each species are being brought together with telling effect.

R. M. G.

SEEDLING ODONTOGLOSSUMS.

THE following notes on Seedling Odontoglossums are extracted from a letter received from M. Ch. Vuylsteke, of Loochristi, Ghent, who, it may be remembered, has flowered three distinct hybrids during the present year. The first difficulty M. Vuylsteke mentions, is that of getting the seeds to germinate, and he believes that many of the seeds produced are without a healthy germ, for all the principal growers in Belgium have tried experiments on a large scale, and in various ways, though without much success, and often with none. A bright or dull summer has an important influence in maturing the seeds, and M. Vuylsteke finds that plump seeds germinate easily. During this process they gradually change into little green leafless and rootless bulbs, in which stage they require the greatest care, or they quickly die. After a time they gradually develop roots and leaves, and thus become stronger, after which the risk of their disappearing is greatly reduced. After they become established, M. Vuylsteke remarks that he finds them stronger growers than imported plants. If there are any cultural secrets besides perseverance and unremitting attention, M. Vuylsteke does not divulge them, though we have his permission to publish these notes. Those, however, who succeed in growing Odontaglossums well should be encouraged to persevere, for where older plants thrive seedlings also grow, additional care being taken until the plants have developed roots and leaves, and thus become established. Seedlings have now flowered in at least five different establishments, and nice little plants are in existence elsewhere, which only require time in order to reach maturity. Notes from other correspondents will be acceptable.

CALENDAR OF OPERATIONS FOR OCTOBER.

By H. A. BURBERRY, King's Heath, Birmingham.

A LITTLE difference must now, of course, be made in the temperatures of the various departments. The following figures will be a guide to the degree of warmth most suitable for the autumn months:—

COOL HOUSE:—Day, with sun, 60° to 65°; without sun, 55° to 60°; night and morning, 50° to 55°.

INTERMEDIATE HOUSE:—Day, with sun, 70° to 75°; without sun, 60° to 65°; night, 60°; morning, 55° to 60°.

WARM OR EAST INDIAN HOUSE:—Day, with sun, 75° to 80°; without sun, 70°; night, 65°; morning, 60°.

The beautiful weather of September has fully compensated for the late spring. It has assisted those plants that were rather late to form their pseudobulbs, and to become properly ripened, while the large volumes of beautiful warm air, which it has been possible to administer, have done much to harden and ripen up all others, giving them a healthy tone, and thus preparing them to pass more successfully through the winter months, now so close upon us.

A few words here on the general present management of the various departments may, perhaps, be of service. Commencing with the Cool house, I may say that very little warmth from the pipes will yet be required. On a particularly cold, sunless day, a little may be employed with advantage, because it will enable a circulation of fresh air to be still maintained. The nights, however, are now getting long and cold, and it it therefore advisable to employ a little warmth for a few hours almost every night, or a nasty mildew will probably appear on the foliage, showing plainly enough that the air becomes stagnant. A little warmth in the pipes will prevent all this, because a goodly supply of air may then be given, both at top and bottom. The value of such air at this season for Cool Orchids must never be lost sight of. The more hardily—in reason, of course—one treats his Orchids, the less are his failures, and the greater and more wonderful are his successes.

Regarding water in this department at this season, we must now be rather careful. The number of times one may damp down the surroundings depends, of course, on two things—firstly, the weather, and secondly, the structure and its position. A well-appointed Cool house should now require damping down about once a day—during the morning—though sometimes it may require it twice; and there may frequently be days when it would be best to avoid damping altogether. I allude to damp, sunless weather. As to watering at the roots, much more care must now be exercised. Many cool Orchids are ruined during the winter simply

through being kept too wet at the roots. They should not, of course, be baked up with drought, so as to cause shrivelling; but I am certain that it is far safer to err on the dry side than on the wet. I speak of *all plants*, in whatever stage of growth they may chance to be. You may keep your plants in a continually saturated atmosphere, and always wet at the root, and try to force growth the whole year round, and with more or less success, but growth will never be free and robust, and the trouble they give is great. Never will they grow luxuriantly and freely until it is recognised that *rest*, at some period of the year, is equally as important for Orchids as for all other plants.

The inmates of the Intermediate house should likewise be kept drier. The fore-going remarks on damping down and watering will exactly apply here. More warmth from the pipes will, of course, be necessary, inasmuch as the degree to be maintained is higher. But, even here, there will probably be many days and nights during this month when but very little artificial heat will be necessary. Bear in mind that when *a little* fire-heat may be advantageous to assist in securing a suitable atmosphere, *much* may have an opposite effect, and be almost as bad as though none at all were employed. Let the top ventilators be used in accordance with the outside weather, as late into the season as possible, for the plants will now be comparatively hardy and able to withstand larger volumes of air at this autumn season than they will in spring. Manage this month to have more or less bottom air on, night and day.

The East Indian house:—In this department little can be added to the instructions given for the previous one. For some little time longer this will probably require to be damped down twice daily pretty regularly. Give air at all times whenever possible, though, of course, a greater amount of caution in doing so has here to be adopted. Commence also to reduce considerably the amount of water given to the plants.

The deciduous Calanthes will now almost have completed their new pseudodulbs, and begin to push up their spikes for blooming a month or two hence, and a much less supply of water is now required. The large green foliage will gradually decay until none are left, and the flowers will then gradually expand, requiring but little water to assist them. They come on and expand much better in the Warm house where they have been grown, but last longer if then removed into an Intermediate department.

As mentioned last month, Cattleya labiata and C. Dowiana aurea are now very beautiful. I think I have before warned growers that these two species are very apt to be weakened and disfigured by the partial loss of their new bulbs directly after flowering, unless they are then looked after and prevented from doing so. This decay sets in from

where the flower spike has been cut, and the leaf soon drops. To prevent this the sheath should be pulled bodily away, so as to prevent the water lodging therein. And not only this, but the plants should not be allowed directly after blooming to occupy a too wet, cold, or shady spot, but should be given a light position, where the air can circulate freely round them, The old stump of the flower-spike then soon dries up, when all fear of rot is over.

Dendrobium Phalænopsis and its varieties are now making a great show. After flowering, they should be suspended in a light Warm house, where they may thoroughly rest throughout the winter, receiving only enough water to keep them from shrivelling. During summer they are fond of great heat and much moisture, but, if kept too excited during winter, will grow badly and become spotted.

Many of the spring-flowering Dendrobiums have now completed their new pseudobulbs, and desire nothing more than to be placed in a department where the atmosphere is somewhat dry, with plenty of air, and a cool temperture. For the majority of these, the thermometer should register from 45° to 55° throughout the greater part of the winter or resting months. In such a temperature, with but little water given, the pseudobulbs will remain plump and hard, and their flower buds will slowly develop. Plants may be selected as required, and placed in slightly warmer positions for flowering. When the flower buds have attained a good size they should receive a little more heat, when they will expand in about two weeks. If any of the plants have started to grow again they must still undergo the same system of rest, or they will soon deteriorate. If there is no separate department suitable for resting Dendrobes, the Cool Orchid house makes a splendid place for them, and if there be one place more cool and airy than another, see that it is occupied by D. Wardianum, so that a complete rest shall be insured.

Many of the Oncidiums are now producing their flower-spikes, and among these is the charming O. varicosum. This species is well-known on account of its beautiful spikes of yellow flowers, but it is difficult to cultivate it well for many years together. I think that difficulty has at last been overcome to a very large evtent. I used to think that it succeeded best in the Cool house with some of the other cool-growing species, but have since found out that the Cattleya house provides the most suitable temperature all the year round. It is not, however, to the temperature alone that I attribute the failure in growing it well, but to insufficient rest. To really succeed with this species it must be grown suspended, and during the winter it must have an absolute rest. It will then need scarcely any water. Never mind about it shrivelling a little; it will soon get plump again when spring arrives and water is applied. I have seen

these shrivelled-up bulbs make new growths equal to any made by a newly imported plant.

The work of importing Orchids goes on apace at all times of the year. Those that are purchased now should not be neglected for a single hour, but straightway be cleaned and washed, taken to their respective quarters, and induced to sprout out new roots by standing them up on a layer of moss, which should be kept continually moist. When the new roots are seen to appear, they may be potted or basketed up, and further encouraged to grow. To let them lay about here and there on the stages at this time of the year means that they will quickly go from bad to worse, until they are practically useless. From the time an Orchid is gathered from its native bower until it is again growing and making new roots with us at home, it is continually losing its vitality, therefore the sooner we get it well on the road to recovery the better, and that cannot quickly take place if it is suspended by its heels and allowed to remain dust dry, or put away under the dark stages, as is too often the case.

The short-bulbed Mexican Lælias are now producing their flower spikes plentifully, the last spell of brilliantly fine weather having helped them on wonderfully. Continue to give them a fair amount of water until they have finished blooming, to prevent the pseudobulbs suffering too much. I would advise that very small pseudobulbs be not allowed to bloom, but have their spikes pinched off, so that they may be stronger another year. There is really no difficulty in growing this class of Orchids provided they have similar treatment to that given to Cattleya house plants generally, both winter and summer. From May onwards through the summer it is well nigh impossible to over-water them, but from autumn until spring again very little is required. All of them delight in a considerable amount of sunlight, but only L. anceps can endure full exposure to the sun in the hottest weather, so that a light shading should be provided.

Earlier in the year, I advocated the syringing of Orchids with lukewarm water once or twice daily to assist them while making new growth. This practice should now be discontinued, or some evil effects may probably result.

Black and yellow thrips which formerly gave the Orchid grower so much trouble, should not in these days he reckoned among his most troublesome pests, because with the aid of that now most popular insecticide known as the "XL. ALL fumigating vapourizer" they can be so easily destroyed. The yellow thrip, however, is frequently seen—or rather his handiwork may be—while casually going through a collection of Orchids. It may be in the flower buds of an Odontoglossum crispum or O. Rossii becoming deformed and curling up, in the tender flower buds of Dendrobium Phalænopsis turning yellow and falling off, or in the leaves of Cypripediums

more or less yellow, from injury caused by these insects still at work down in the axils. This not only robs the grower of the flowers, but also enfeebles and disfigures his plants. "XL. ALL" is perfectly safe to use if the instructions are followed, and I have never known anything injured as used to be the case in the old days of tobacco rag, paper, &c. It generally kills the pests far away down the axils, which the tobacco paper would not touch, and any that are left may easily be destroyed by dropping a little tobacco powder down among them. In these days there is really no reason why thrips should be allowed to ravage our plants.

THE JAPANESE IN AN ORCHID CRAZE.

THE following amusing paragraph is going the round of the papers:—"The latest craze that has made its appearance in Japan is the Orchid craze; and if reports are true, the Tulip craze in Holland of several centuries ago may well look to its laurels. According to the *Tokio Asaki* (Morning Day), a new variety of a small Orchid, jointly owned by the well-known gardener of Shitanya, Marn Shin, and by two others, is at present enjoying the highest reputation. It is called 'Amakusa,' for every rare variety has its own special name. Its leaves measure only four inches in length, and one-and-a-half inches in width, this variety being the only one now found in Japan. The leaves, only eleven in number, are whitish, with yellow-hued stripes widely marked, and the whole appearance exceedingly graceful. The fame of the 'Amakusa' has sent all the circles of Orchid hunters into a flutter. Numerous applications have been received by the triple owners, asking them to part with even one leaf, for Orchids, as is well known, can be propagated by root separation. But all these applications have been courteously declined. The other day, says the *Asaki*, a delegation, representing ten villagers of Chitagori, Okari, came up to Tokio. They were all men stricken with the Orchid mania, and, hearing of this rare variety, each of them subscribed 500 yen (a yen is 50 cents in United States currency), and one of them, the headman of the village, arrived on the important mission of purchasing a leaf. While the negotiations were in progress, the Kyoto Horticultural Company despatched its president also on the same errand. The owners of the precious Orchid conferred with each other, but decided not to accede to the offers made them, for they have in mind a similar case of another rare variety, which, several years ago, brought the fabulous price of 10,000 yen per leaf. So both delegates were obliged to return home crestfallen; and the *Asaki* adds, 'Even supposing that the owners might be persuaded to part with that Orchid at 5,000 yen a leaf, that would bring

them a sum of 55,000 yen, while if the price were to rise to 10,000 yen each, that amount would be doubled."—*Western Morning News.*

It would be interesting to have a few more details, and to know what our Japanese readers think of the paragraph.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

A MEETING was held at the Coal Exchange, Manchester, on August 25th, when the following members were present ;—Messrs. G. W. Law-Schofield (in the chair), H. Greenwood, P. Weathers, R. Johnson, J. Robson, and T. Mills (Hon. Sec.).

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed Lælio-cattleya × Mr. Gratrix, to which an Award of Merit was given.

J. Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Cattleya Leopoldi.

Thomas Statter, Esq., Whitefield (gr. Mr. Johnson), showed Lælio-cattleya × elegans blenheimensis (First-class Certificate), L.c. × e. excellens (Award of Merit), L.-c. × Nysa superba (First-class Certificate), Lælia crispa superba (First-class Certificate), Cattleya × Hardyana rubescens (First-class Certificate), and C. × H. magnifica (First-class Certificate). The same exhibitor staged a very fine group, for which he was awarded the Society's Silver Medal.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), showed Cypripedium × Mrs. F. L. Ames (Award of Merit), and Dendrobium formosum giganteum (Award of Merit).

Henry Weetman, Esq., Glossop (gr. Mr. Nesbit), showed Cattleya Harrisoniana, Weetman's variety (Award of Merit).

Mr. John Robson, Altrincham, showed Vanda teres (Award of Merit).

At the meeting held on September 8th the members present were :—Messrs. G. Shorland Ball (in the chair), Rappart, Bolton, Johnson, Robson, and Mills (Hon. Sec.).

Mrs. Briggs-Bury, Accrington (gr. Mr. Wilkinson), showed a good plant of Cattleya Warneri, C. Harrisoniana eximia, a good dark variety with broad sepals and petals (Award of Merit), and Lælio-cattleya × Clonia (Award of Merit).

Thomas Statter, Esq., Whitefield (gr. Mr. Johnson), showed Cypripedium × Denisianum, Cattleya Warscewiczii, a good spotted form of Odontoglossum crispum, and a very beautiful form of Lælio-cattleya × Ingramii, being a cross between L. Dayana superba and C. Dowiana aurea. The lip was intensely dark, looking almost black at a distance. A First-class Certificate was awarded.

Mr. John Robson, Altrincham, showed Cattleya × Hardyana, for which he obtained a First-class Certificate.

F. Hardy, Esq., Ashton-on-Mersey, sent plants of the interesting Sophro-cattleya × George Hardy, described at page 270.

Mr. W. Bolton, Wilderspool, sent a nice collection of cut flowers.

At the meeting held on September 22nd, the exhibits were rather more numerous, and the following members of the Committee were present :— Messrs. G. Shorland Ball (in the chair), G. W. Law Schofield, J. Leemann, H. Greenwood, A. Warburton, W. Bolton, J. Cypher, R. Johnson, and T. Mills (Hon. Sec.).

Thomas Statter, Esq., Whitefield (gr. Mr. Johnson), showed Cattleya granulosa aurea (Award of Merit), C. × Minucia, and the beautiful Lælio-cattleya × elegans Statteriana (First-class Certificate).

S. Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed Lælio-cattleya × Nysa, and a Cypripedium called C. palawanensis.

H. Greenwood, Esq., Haslingden (gr. Mr. Gill), showed Dendrobium × Kenneth, and Cypripedium × Marshianum (Award of Merit).

Mrs. Briggs-Bury, Accrington (gr. Mr. Wilkinson), showed Odonto-glossum crispum illuminatum, with flower well spotted and of good form, but rather small (Award of Merit), and O. bictoniense xanthoglossum.

John Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Cattleya × Hardyana, a wonderful form of this beautiful variety (First-class Certificate), C. × H. Massaiana, C. Gaskelliana (Award of Merit), C. G. pallida, Lælio-cattleya × Andreana, Cypripedium × Charles Richman, C. × œnanthum superbum, and Lælia pumila. This exhibitor also staged a very fine group of miscellaneous Orchids, amongst which there were three plants of Cattleya × Hardyana. A Silver Gilt Medal was awarded.

Richard Ashworth, Esq., Newchurch (gr. Mr. Pidsley), showed Lælio-cattleya × Nysa (Award of Merit).

W. Bolton, Esq., Wilderspool (gr. Mr. Cain), showed a very fine form of Cattleya Warscewiczii (Award of Merit), and a beautiful group of the various forms of Cattleya Harrisoniana, for which a Silver Medal was awarded.

Mr. J. Cypher, Cheltenham, showed Oncidium Forbesii superbum (Award of Merit) and a fine Dendrobium Phalænopsis highburyensis (Award of Merit).

Messrs. Hugh Low & Co., Enfield, showed Lælio-cattleya × intermedio-flava (Award of Merit) and L.-c. × Pallas, a fine flower but past its best.

Mr. A. J. Keeling, Bingley, showed Cattleya × Massaiana, High View Variety (Award of Merit), and Lælio-cattleya × eleganti-Lawrenceana (Award of Merit).

Mr. J. Robson, Altrincham, showed Dendrobium Phalænopsis delicatum, Miltonia spectabilis atrorubens, and Cattleya × Ashtonii.

Messrs. Charlesworth & Co., Bradford, showed Oncidium incurvum album (Award of Merit and Cultural Certificate), Cattleya Eldorado alba (Award of Merit), Masdevallia macrura, Odontoglossum maxillare (madrense), Lælio-cattleya × intermedio-cinnabarina, Cypripedium × Lilian Greenwood (Award of Merit), and Dendrobium Phalænopsis.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

At the meeting of the Royal Horticultural Society held at the Drill Hall, James Street, Westminster, on September 6th, Orchids were not numerously represented, though several fine things were shown. The members of the Orchid Committee present were:—H. J. Veitch, Esq., in the Chair, and Messrs. J. O'Brien (Hon. Sec.), T. W. Bond, H. J. Chapman, S. Courtauld, De Barri Crawshay, James Douglas, J. G. Fowler, T. B. Haywood, H. M. Pollett, A. H. Smee, W. H. White, and W. H. Young.

Mr. Owen Thomas, gardener to Her Majesty the Queen, Frogmore, staged a most remarkable specimen of the Dove Orchid, Peristera elata bearing eight fine spikes and an aggregate of over three hundred of its fragrant flowers. It was awarded a First-class Certificate and also a Silver Flora Medal in recognition of its exceptional culture.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), exhibited the remarkable Dendrobium sanguineum which is unique in its deep crimson colour. An Award of Merit was given.

Edgar Cohen, Esq., Hall Road, St. John's Wood (gr. Mr. Vass), exhibited a fine plant of Lælio-cattleya × elegans, the sepals and petals being greenish yellow, tinged and veined with light rose, and the lip rich purple in front and cream-white behind; a very handsome form.

Sir T. G. Freake, Bart., Warfleet House, Dartmouth, sent a beautiful form of Dendrobium Phalænopsis, whose flowers were white, tinged with yellow at the base of the lip, and veined with purple on the front lobe.

C. L. N. Ingram, Esq., Elsted House, Godalming, sent Lælia × splendens (crispa × purpurata), a pretty hybrid with fragrant flowers, in which the characters of the two parents are very well combined.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), showed Cypripedium × Mrs. F. L. Ames (tonsum ♀ × Fairrieanum ♂), a pretty hybrid, with light green flowers veined with purple.

Messrs. James Veitch & Sons, Chelsea, staged a very fine group, consisting largely of hybrids, to which a Silver Flora Medal was given. It

contained two good forms of Cattleya × Eros; C. × Euphrasia langleyensis, a very pretty variety, having light rose-coloured flowers, with the base of the lip yellowish white and the front lobe dark claret purple; C. × Ella (bicolor ♀ × Warscewiczii ♂), a fine hybrid, with flowers most like C. bicolor in shape, and the colour rosy lilac, with a brilliant purple front lobe margined with lavender (Award of Merit); the brilliant Lælio-cattleya × callistoglossa ignescens; several good L.-c. × Nysa; the interesting Epidendrum × radicanti-Stamfordianum; some good forms of Dendrobium Phalænopsis, Renanthera matutina, Masdevallia × Imogen, Rodriguezia venusta, Cypripedium × Clinkaberryanum, C. × H. Ballantine, the handsome C. × Rothschildiano-villosum, C. × Milo, C. × Harrisianum superbum, and other good things.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, showed a Cypripedium called C × palawanense, said to have been imported from North Borneo, and supposed to be a natural hybrid. It bears a considerable resemblance to C. × Kimballianum.

Messrs. F. Sander & Co., St. Albans, showed Cypripedium × William Trelease (Rothschildianum ♀ × Parishii ♂), a fine hybrid with large yellow dorsal sepal veined with dark purple, petals irregularly blotched and lined with similar colour, and the lip tinged and veined with rose; another pretty hybrid called C. × Mrs. Edgar Cohen, derived from C. callosum × niveum, and thus a variety of C. × Winifred Hollington; Dendrobium Phalænopsis and other interesting things.

THE CULTIVATION OF DISAS.

At three o'clock, a paper by Mr. T. W. Burkinshaw, on "The Disa," was read by the secretary (Rev. W. Wilks, M.A.), the chair being taken by Mr. George Paul. Mr. Burkinshaw is a very successful grower of Disas, and, after a few introductory words as to their utility and beauty, he proceeded to describe the details of their culture by which success could be attained, the directions being primarily applicable to D. grandiflora. From the conditions under which his own plants were cultivated, Mr. Burkinshaw showed that Disas require a house to protect them from severe frost and cold draughts, though abundance of fresh air is necessary, and even during very cold weather the admission of a little air several times a day, so as to change the atmosphere, will benefit the plants. In the winter of 1894, owing to the boiler being weak, the temperature of Mr. Burkinshaw's house fell one or two degrees below freezing point, so that the soil was quite hardened on the service, and the young growths blackened, but, by the use of cold water over the plants before the sun was upon them, he prevented any injury resulting, and the same season he had forty to sixty spikes of bloom which bore six, eight, or nine blooms on a spike. The atmosphere

should not be allowed to become dry either by day or night. The plants usually bloom during June and July, but by keeping them cool and shading them from the sun, he had delayed them from flowering until the beginning of July, and they then lasted until the end of August. Disas like a short rest before growth commences, and as soon as the old leaves are seen to become brown in tint, less water should be given. The best time to re-pot is the end of September or beginning of October. Mr. Burkinshaw's practice is to re-pot them one year, and the next year merely to re-surface them and put the drainage in order. Ordinary pots or pans are preferred to perforated ones, and the crocks are best put end downward instead of horizontally, as the young roots like to run down between the crocks. The crocks should be covered with sphagnum-moss, and the drainage should be efficient.

The compost used is peat, a little dry cow-manure, and broken charcoal, all passed through a half-inch sieve, and the fine portion rejected. The plants should be knocked out carefully, so that the roots are injured as little as possible. In potting, the plants should be elevated a little above the rim, when there is less liability to damp at the collar. The potting material may be surfaced with living sphagnum-moss and broken sand-stone, after which the plants should be watered with tepid water and removed to their winter quarters. They should be shaded from hot sunshine, and for this purpose blinds are best, as it is possible to remove them when not required. Little root-watering will be needed until after February, in which month the plants will commence to grow. During March, April, and May, however, they should be given copious supplies, and, in the latter month, guano at the rate of one ounce to a gallon of tepid water may be given with much benefit. A few flowers were sent by Mr. Burkinshaw that his plants had produced as late as September.

At the meeting held on September 20th, Orchids were much more numerous than at the two or three previous ones. The members of the Orchid Committee present were: H. J. Veitch, Esq., in the Chair, and Messrs. J. O'Brien (Hon. Sec.), H. Ballantine, T. W. Bond, H. J. Chapman, W. Cobb, S. Courtauld, J. Douglas, J. G. Fowler, J. T. Gabriel, E. Hill, H. Little, H. M. Pollett, W. H. White, and W. H. Young.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a fine group, consisting chiefly of Miltonias, and including a very fine, well-flowered specimen of M. spectabilis, which had been for years in the collection, and to which a Cultural Commendation was given; M. s. Moreliana, M. Clowesii, the handsome M. × Bluntii Lubbersiana, M. × leucoglossa, having cream-white sepals and petals blotched with pale violet, and a pure white lip with a few purple markings round the crest (Award of

Merit); and a fine plant of M. × Binotii, supposed to be a natural hybrid between M. candida and M. Regnellii, bearing seven racemes, the sepals and petals cream-white, tinged with lilac at the base, and barred with cinnamon-brown, and the lip rosy-lilac (Award of Merit). The group also contained Oncidium trulliferum, and a finely flowered plant of O. longipes.

C. H. Feiling, Esq., Southgate House, Southgate (gr. Mr. Canham), staged a very pretty group, to which a Silver Banksian Medal was given. It contained about three dozen well-grown and profusely-flowered plants of Dendrobium Phalænopsis, and including both light and dark varieties; some good forms of Cattleya Gaskelliana, Cypripedium × Bryan, and other good things.

Frau Ida Brandt, Riesbach, Zurich (gr. Mr. Schlecht), sent good spikes of Angræcum Ellisii and Odontoglossum Lindleyanum.

J. Coleman, Esq., Gatton Park (gr. Mr. King), showed a good form of Cattleya × Hardyana, with a very dark lip, having but little of the characteristic golden veining of C. Dowiana aurea.

C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. Bond), showed a pretty form of Lælio-cattleya × bella, called T. W. Bond (labiata ♀ × purpurata ♂).

Messrs. James Veitch & Sons, Chelsea, staged a very fine group, to which a Silver Flora Medal was given. It contained the handsome Cattleya × intertexta (Award of Merit), C. × Wendlandii, C. × Patrocinii, C. × porphyrophlebia, Lælia × splendens (purpurata ♀ × crispa ♂), the reversed cross of the original form (Award of Merit), the rare L. monophylla with thirteen flowers, L. × juvenilis, Lælio-cattleya × Nysa and varieties, L.-c. × Eunomia, the singular Dendrobium Mirbelianum, Epidendrum Brassavolæ with three racemes, Lycaste leucantha, the graceful Cœlogyne Veitchii with graceful drooping spikes of pure white flowers, Oncidium Marshallianum, Cypripedium × T. B. Haywood, and others.

Messrs. Hugh Low & Co., Enfield, received a Silver Banksian Medal for a showy group containing good examples of Lælio-cattleya × intermedio-flava, L.-c. × Nysa, L.-c. Pallas, L.-c. × elegans, Cattleya velutina, C. × porphyrophlebia, several good forms of Vanda cœrulea, Cypripedium × marmorophyllum, C. × picturatum, C. × palawanense, C. × Harrisianum superbum, C. × T. W. Bond, and other good things.

Messrs. F. Sander & Co., St. Albans, sent some good plants of Odontoglossum grande, Cypripedium purpuratum, and two examples of the handsome Dendrobium atroviolaceum, of which they have recently obtained a fine importation.

Messrs. J. W. Moore & Co., Cragg Royd Nurseries, Rawdon, near Leeds, sent a fine plant of Vanda cœrulea, bearing a stout inflorescence of its handsome flowers.

ORCHID PORTRAITS.

AGANISIA CŒRULEA.—*Rev. Hort*, Sept. 16, p. 432, with plate.

CATTLEYA ELDORADO.—*Journ. of Hort.*, Sept. 15, p. 203, fig. 36.

CATTLEYA TRIANÆ VAR. SAMYANA.—*Lindenia*, t. 631.

CYMBIDIUM LOWIANUM (at Clare Lawn).—*Gard. Mag.*, Aug. 20, p. 542, with fig.

CYPRIPEDIUM LONGIFOLIUM.—*Gartenfl.*, Sept., p. 393, t. 9.

CYPRIPEDIUM × NIOBE, Rolfe.—*Lindenia*, t. 629.

CYPRIPEDIUM × OLIVIA.—*Journ. of Hort.*, Aug. 25, pp. 142, 143, fig. 26.

DENDROBIUM DEAREI (a fine specimen).—*Gard. Chron.*, Sept. 10, p. 193, fig. 53; *Garden*, Sept. 24, p. 237, with fig.

DENDROBIUM DENSIFLORUM (a fine specimen).—*Gard. Chron.*, Sept. 3, pp. 184, 185, fig. 51.

DENDROBIUM PIERARDI.—*Gard. Mag.*, Aug. 13, p. 526, with fig.

DISA × CLIO.—*Journ. of Hort.*, Sept. 1, p. 163, fig. 29.

DISA GRANDIFLORA.—*Sem. Hort.*, Sept. 17, p. 395, fig. 380.

EULOPHIELLA PEETERSIANA, Kränzl.—*Bot. Mag.*, tt. 7612, 7613.

LÆLIA ANCEPS VAR. BALLANTINEANA.—*Lindenia*, t. 632.

LÆLIA PRÆSTANS, Rchb. f., VAR. AMABILIS.—*Lindenia*, t. 627; VAR. CANDIDA.—*l.c.*, t. 625; VAR. NOBILIS.—*l.c.*, t. 626.

LÆLIO-CATTLEYA × INGRAMII GIGANTEA.—*Journ. of Hort.*, Aug. 11, pp. 109, 110, fig. 20.

ODONTOGLOSSUM PESCATOREI VAR. ROI LEOPOLD.—*Lindenia*, t. 630.

ODONTOGLOSSUM × VIGERIANUM, L. Lind.—*Lindenia*, t. 628.—One of the numerous forms of O. × Wilckeanum.

SCUTICARIA HADWENII.—*Gard. Mag.*, Aug. 27, p. 558, with fig.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

J. F., Lasswade.—Acampe longifolia.

G. M.—We believe that any of the firms whose names appear in our advertisement columns could supply the plants. It would be invidious to name any one particularly.

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A. P.—We do not know of any absolute character by which Lælia pumila and L. præstans can be separated, as they seem to pass into each other, if a series of flowers are examined.

Photographs received, with thanks.—G. L. M., G. I'A., A. W. H., R. B. W.

We have received the illustrated Catalogue of Orchids, issued by Mr. Paul Wolter, of Magdeburg-Wilhelmstadt, Germany, containing a good selection of the usual cultivated Orchids. Also a list of newly imported Orchids from Brazil and Columbia, issued by M. Binot, of Brussels.

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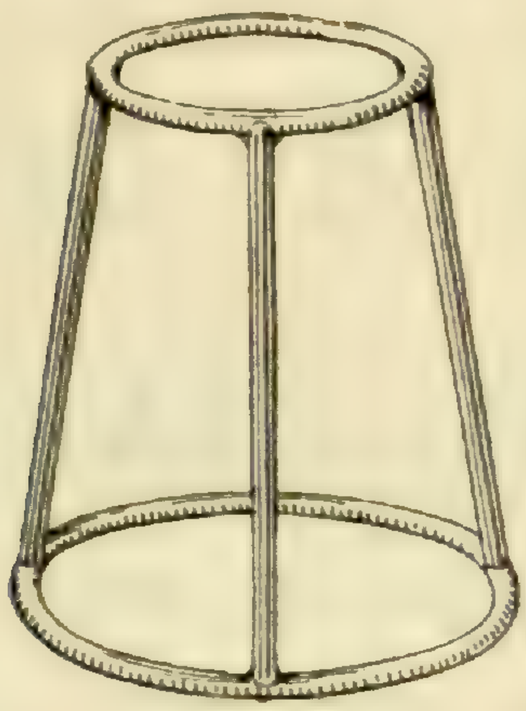

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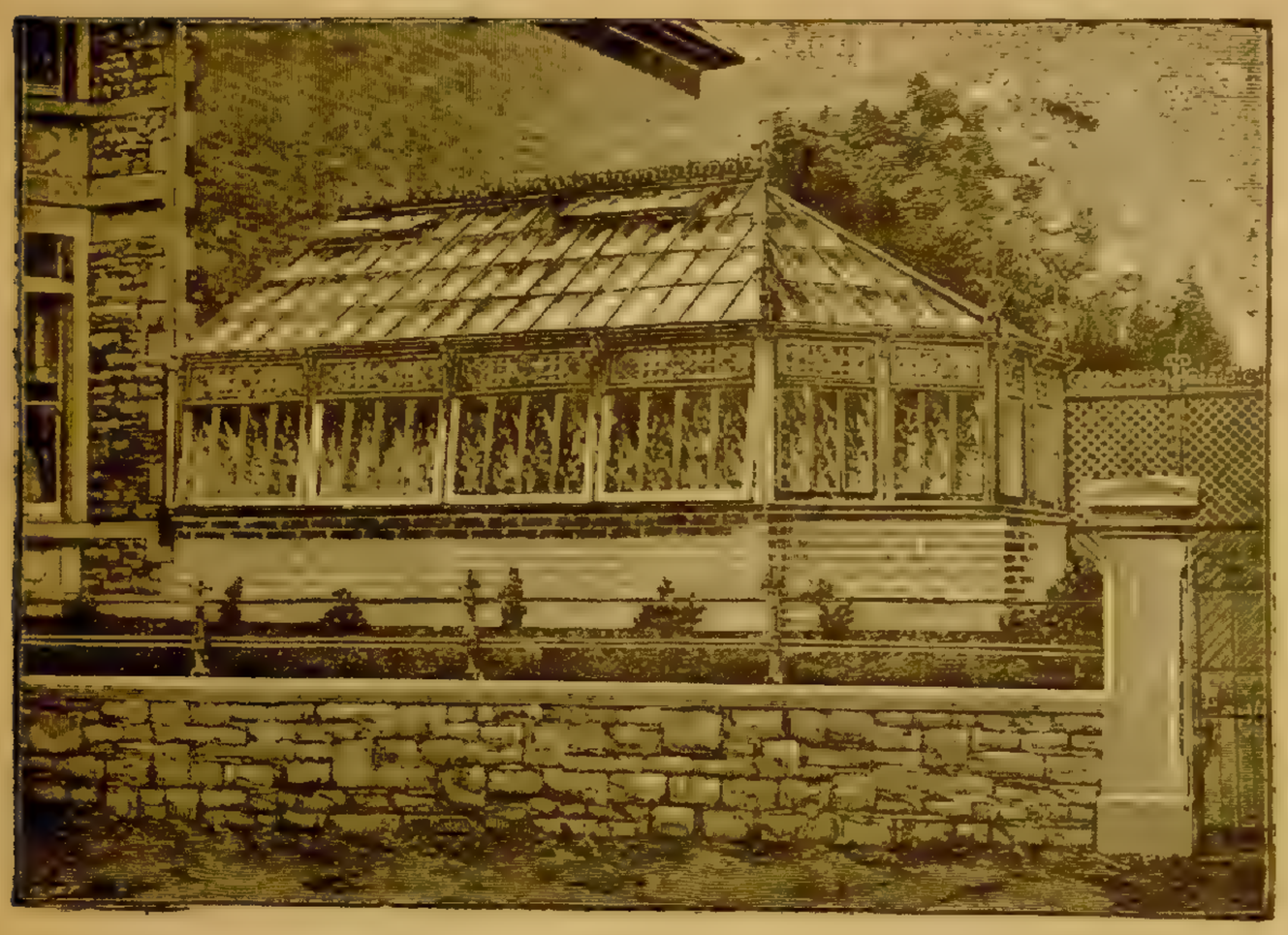

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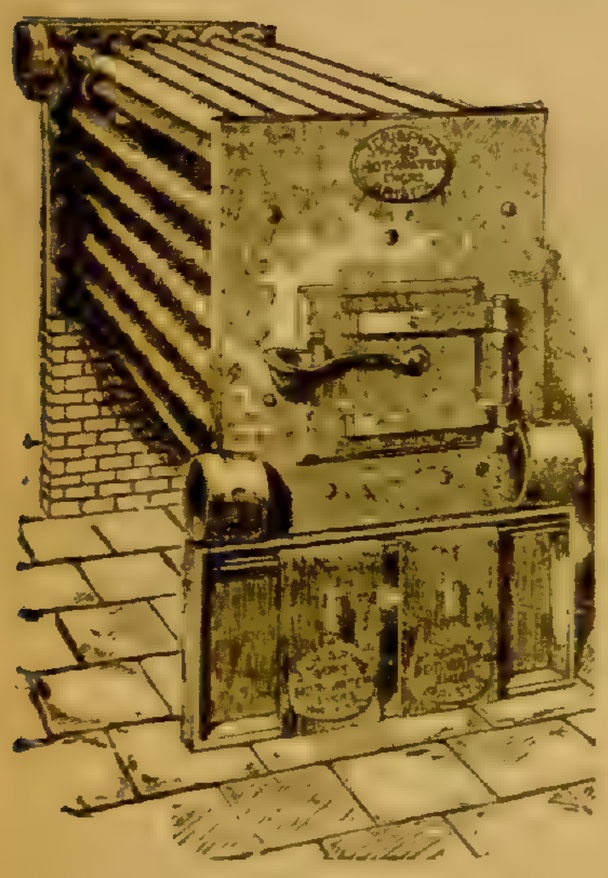

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THE

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THE ORCHID REVIEW.

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NOTES.

Two meetings of the Royal Horticultural Society will be held at the Drill Hall, James Street, Westminster, during November, on the 8th and 22nd respectively, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The November meetings of the Manchester and North of England Orchid Society are fixed for the 10th and 24th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 4 o'clock p.m.

A splendid flower of the beautiful Cattleya Warscewiczii is sent from the collection of W. S. M'Millan, Esq., of Maghull, near Liverpool. It measures over 8½ inches in diameter across the petals, and the lip is well developed and very richly coloured. The plant bears two trusses of four flowers each, and Mr. M'Millan thinks that he has never before seen a small plant make such an imposing display. It is from one of Messrs. Sander's importations, and is now flowering for the first time.

Lælia pumila is an extremely useful Orchid at this season, being easily grown and very floriferous, while some of the forms are of exceptional merit. A beautiful form, with very richly-coloured sepals and petals, is sent from the collection of James Davidson, Esq., of Dumfries.

From the collection of Joseph Broome, Esq., Sunny Hill, Llandudno (gr. Mr. Axtell), we have received several handsome flowers. Two forms of Cattleya Dowiana aurea both have the petals beautifully veined with reddish near the apex, as in the old Costa Rican form. Lælio-cattleya × Schilleriana has a nearly entire, rich purple lip, with a white throat, and

a slight tinge of pink in the sepals and petals. The others are Lælia pumila, a very large and handsome Oncidium Papilio, Dendrobium formosum giganteum, and the rare and curious Denbrobium Cœlogyne. The plants from which they were cut are evidently in robust health.

A very remarkable flower of Disa × Veitchii is sent from the collection of E. F. Clark, Esq., of Teignmouth. It grows among a cluster of leaves at the base of a shoot, about two inches above the surface of the pot, and may possibly represent an arrested spike. The sepals are all united into a single ovate concave limb, and the petals cohere by their inner margin. The lip is absent, but the column and anther are present, though somewhat distorted. It is very curious, and remarkably different from the normal flower.

Mention has been made in these pages on several occasions of Cypripediums with twin-flowered scapes, and the phenomenon is pretty common among strong, well-cultivated plants. Examples of C. × œnanthum superbum and C. × Ashburtoniæ expansum showing this character are sent from the collection of Reginald Young, Esq., Sefton Park, Liverpool. The former is particularly fine and richly coloured.

Other flowers included are C. × Barteti, which is a large form of C. × Ashburtoniæ with very dark petals and lip; C. Charlesworthii superbum, a large and richly coloured form, the veins, especially, being very dark in colour, C. purpuratum, and C. p. superbum, the latter being a great improvement, both the flowers and leaves being much darker than in the type.

A beautiful flower of Cattleya × Johnsoni superba is sent from the collection of Sir Frederick Wigan, Clare Lawn, East Sheen, by Mr. Young. It is much larger than the original, the petals being three inches long. The colour is bright rose-pink, with a large light yellow area in front of the lip's disc.

A good flower of Cattleya elongata is sent from the collection of H. A. Smith, Esq., Helmshore, near Manchester, from a plant which has been in the collection four or five years, but has not flowered before. The plant is probably weak, having now produced but one flower, on a scape about a foot long. No one, so far as we have heard, has grown it in anything like its native vigour, or with the ten-flowered scape seen in the original specimen.

The old Cattleya labiata is now flowering very profusely everywhere, and shows much variation in colour. A very richly coloured flower is sent from the collection of R. B. Macbean, Esq., of Lancaster, which, like many others, is also very fragrant.

A curious flower of Phragmipedium × Sedeni leucorrhodum is sent from the collection of W. M. Appleton, Esq., of Weston-super-Mare, in which the lip is suppressed, but all the other parts normally developed.

The pretty little Sophrolælia × læta is a seedling from Lælia Dayana crossed with the pollen of Sophronitis grandiflora, and much resembles a miniature edition of the former with the colour modified. A two-flowered scape has been sent by Messrs. James Veitch & Sons. The sepals and petals are of a pleasing shade of purple-rose, and the lip darker, almost maroon-purple, with a yellow throat, and six dark slightly raised lines along the disc.

Lælia Dayana delicata is a very pretty light variety, of which a flower has been sent from the collection of E. F. Clark, Esq., of Teignmouth. It differs from the typical form in having the sepals, petals, and lower part of the lip pale lilac, and thus is about intermediate between that and the variety alba.

Two fine forms of Lælia pumila are also enclosed, together with a flower of the rare Odontoglossum maxillare, and two hybrid Paphiopediums, purchased at Messrs. Protheroe & Morris' sales without record of parentage. A comparison of the leaves and flowers shows that one is a form of P. × Eyermanium (P. barbatum × Spicerianum), and the other of P. × auroreum (P. Lawrenceanum × venustum.

Cattleya labiata superba is an exceptionally large variety of this fine old species, but fairly typical in colouring. We have received a flower from the collection of H. H. Noble, Esq., of Aigburth, Liverpool, whose petals reach 4½ inches in length, all the other parts being equally well developed. The plant, which came out of Messrs. Cowan & Co.'s importations, carries two spikes, one having four and the other three blooms.

A twin-flowered scape of Paphiopedium Charlesworthii has been sent from the collection of Mrs. Hollond, Wonham, Bampton, Devon, together with another flower in which the two lateral sepals are free to the base, and one of them has the outer margin enlarged, and of the same bright rose colour as the dorsal sepal.

A good flower of Cattleya maxima is sent from the collection of W. S. M'Millan, Esq., of Maghull, near Liverpool, having pale rosy lilac sepals and petals, and a nearly white lip regularly veined with radiating crimson-purple nerves on either side of the yellow disc.

DIES ORCHIDIANÆ.

An interesting paper on "Hybrid Orchids," by Mr. James O'Brien, V.M.H., appears in the last number of the *Journal of the Royal Horticultural Society* (pp. 178-185). It deals with the question largely from a cultural standpoint, but in the introductory portion contains some interesting remarks on the general aspect of the question. The author, as Honorary Secretary of the R.H.S. Orchid Committee for a number of years, has had the opportunity of seeing the many beautiful hybrids which follow each other in rapid succession, and has been struck by the pointed examples which they give, and continually emphasise, of the good to be attained by diligent work. One of the advantages secured by the hybridist is the production of a large number of showy plants, giving variety at all seasons, and in some cases filling in the periods between the flowering seasons of different species, so as to secure a more continuous supply of flowers. Orchids under cultivation may often be found flowering out of their proper season, and the hybridist is thus enabled to effect crosses between species naturally flowering at different periods, of which it is remarked that the progeny generally flower midway between the proper time of flowering of the parents, with a slight inclination mostly towards the season of the seed parent. An instance, given in illustration of the point, is the series of hybrids raised by Messrs. James Veitch and Sons from Lælia Perrinii, as the seed-bearing parent, which has brought so many beautiful new plants flowering in the dead of winter.

"But good and useful as the work of the Orchid hybridist has been, generally speaking," remarks the author, "it has not supplied to us an altogether unmixed blessing, for in the great and easily worked genus Cypripedium a great many varieties have resulted either from unhappy crosses or from want of care in selecting the best varieties of the species used, the result being that the progeny are what may be regarded as weeds of their kind. The worst of it is that their originators do not regard them as weeds, and out of such failures spring a large proportion of the troublesome synonyms which cause so much anxiety to the members of the Orchid Committee, who get found fault with if they recognise the erroneous names under which the plants are shown, or call down the vengeance of the exhibitors if they change them. The trouble coming from this direction makes one long for the day when raisers of hybrid Orchids will be ready to admit that such failures are not worthy to be retained, and to destroy them, after the manner customary among the raisers of other florists' flowers."

I am glad to see attention once more called to this aspect of the question, for no one who knows anything about the matter will deny that the Orchid

Committee have occasionally some difficult questions to decide. They have, however, some good working rules, and I hope they will not hesitate to follow them. It is not altogether a question of "weeds," however. These might almost be left to look after themselves, if only troublesome synonyms could be prevented among the showier things. The hybrids between Cypripedium barbatum and bellatulum are not weeds, but I once held them up as an awful example of what to avoid in nomenclature. With respect to the future, it appears to me that difficulties are likely to increase rather than diminish, for so many people are now engaged in the fascinating work of hybridising Orchids, and the same cross is often made in different collections at about the same time. Dendrobium × Wiganiæ supplies an excellent illustration of this, being raised in the collections of Sir Frederick Wigan, Sir Trevor Lawrence, and Messrs. Veitch, and flowering in each of them in the spring of 1896, though, fortunately, duplication of the name was avoided. This forms a very pleasing contrast to the one previously mentioned, and affords an excellent guide for the future.

Let us take a purely suppositious case. Cypripediums, being more easily raised than most other Orchids, are experimented with in most collections, and a few years ago a new and striking species was introduced in quantity in the person of C. Charlesworthii, which flowered for the first time in scores of collections within a very short period. At the same time a few widely-grown species and hybrids would be flowering in many of these collections, affording an opportunity of using the pollen of the new comer, which, I have reason to believe, was largely taken advantage of. Some of these crosses were successful, and it may be that plants of some particular combination are gradually approaching the flowering stage in several different collections. All, however, will be forms of the same hybrid, and must be treated as such. If a case of this kind should arise, the one who succeeds in flowering the hybrid first should see that it receives a suitable name, and one in accordance with the rules adopted by the R. H. S. Nomenclature Committee, and that name should be loyally adopted by the others.

In order that the confusion which has undoubtedly occurred in the past may be avoided as far as possible in the future, I would say to raisers of hybrid Orchids:—Carefully preserve the records of all your crosses.—When a seedling flowers, first ascertain if it has not already been named before proceeding to christen it.—When satisfied that it is really new, see that the name given is in accordance with rule.—If a secondary hybrid, keep it unnamed until satisfied that it is an improvement on existing kinds, or has some distinctive character to recommend it.—Lastly, a name being given, have it properly recorded, together with the history of the plant.

ARGUS.

CATTLEYA ALBINOS.

(*Continued from page* 110).

CATTLEYA MOSSIÆ WAGENERI.—An albino of Cattleya Mossiæ appeared as early as 1854, before its relation to this species was understood, and it was described by Reichenbach under the name of C. Wageneri (*Bonplandia*, ii, p. 21). It was discovered in May, 1851, by Wagener, at Caraccas, at 4,000-ft. elevation, and sent to Herr Decker, in whose collection it first flowered. The flower is white, with some deep yellow in the throat. Shortly afterwards, a figure of it appeared (*Xen. Orch.*, i, p. 28, t. 13). Soon afterwards it appeared with Messrs. James Backhouse and Sons, of York, and again with Messrs. Jackson, of Kingston, by whom it was exhibited at the Royal Botanic Society's Show at Regent's Park, in June, 1857. A good figure appears in the *Orchid Album*, vii, t. 295. It is now known as C. Mossiæ Wageneri (O'Brien in *Gard. Chron.*, 1883, xx, p. 372). C. M. alba is also mentioned on the latter page as a very rare white variety, without any other particulars.

CATTLEYA PERCIVALIANA ALBA (*Will. Orch. Gr. Man.*, ed. 6, p. 197) is a beautiful albino which appeared in the collection of R. P. Percival, Esq., of Southport, and received a First-class Certificate from the Royal Horticultural Society, in February, 1884. The flowers are pure white, with an orange stain in the throat.

CATTLEYA LUEDDEMANNIANA ALBA (*Orchidophile*, 1886, p. 365), appeared in 1886, in the collection of M. F. Finet, of Argenteuil, France, from an importation made by M. Godefroy Lebeuf, about three years previous. It is a most beautiful variety, the flowers being pure white with a little yellow in the throat. It is figured in *Reichenbachia* (ser. 2, ii, p. 59, t. 74), from a plant in the collection of W. R. Lee, Esq., of Audenshaw, Manchester, which received a First-class Certificate from the Royal Horticultural Society on September 6th, 1892, under the name of C. speciosissima Sanderiana (*Gard. Chron.*, 1822, xii, p. 312).

CATTLEYA WARSCEWICZII ROCHELLENSIS (C. labiata Warscewiczii rochellensis, Rchb. f. in *Gard. Chron.*, 1888, iv., p. 533) appeared, in 1888, in the establishment of Messrs. Siebrecht and Wadley, of New York, whence it passed into the collection of F. L. Ames, Esq. It is a most beautiful albino, agreeing with the type in shape, but the colour white, with some yellow in the throat. It is figured in *Reichenbachia*, ser. 1., ii., p. 81, t. 85.

CATTLEYA MAXIMA ALBA (J.D. in *Gard. Chron.*, 1881, xvi., p. 846) appeared in the establishment of Messrs. James Veitch and Sons, of Chelsea, and has pure white flowers, with the exception of the front of the lip, on which occur a few rose-purple veins. Thus it is not quite a true albino.

CATTLEYA DOWIANA IMSCHOOTIANA. This is the nearest approach to an albino of this superb species yet known, and its history will be found at p. 334 of the present issue.

(To be continued.)

BOTANICAL ORCHIDS AT KEW.

WITH the numerous alterations and improvements made in the Orchid houses at Kew, we have lost the small botanical shelf which always attracted so much attention, and the numerous botanical species seem to be scattered through the collection. Let us hope that this is only a temporary arrangement, for these small botanical species seem more effective when shown separately. When placed among showy species they seem to be entirely lost.

Several interesting plants, however, are to be seen, and amongst the many kinds may be mentioned the peculiar Appendicula callosa, a Malayan species, also Bulbophyllum Careyanum and B. flavidum, two pretty free-growing species. The curious Elleanthus capitatus is also showing. It is a Sobralia-like species, with globose flower heads, and a native of Tropical America. Eulophia Elliotii is a pretty Madagascar species with its small greenish flowers, and Epidendrum equitans is still producing a long succession of its curious blooms. Neobenthamia gracilis is an interesting Tropical African Orchid with small heads of white flowers. This plant very seldom blooms in cultivation. Polystachya imbricata and Buchananii are two interesting West Tropical African plants now in bloom. Lockhartia elegans is a free-blooming species which frequently bears seed pods. Another striking plant is Seraphyta multiflora, a native of Mexico and the West Indies, and closely allied to Epidendrum. Sarcochilus Calceolus and Thrixpernium leucorachne are also showing their spikes.

In the Intermediate house may be mentioned two interesting terrestrial plants, Cynorchis Lowii and compacta, natives of Madagascar, which require a very good rest to be grown successfully. The dwarf-growing Microstylis commelinæfolia is blooming freely, also Octomeria Baueri and O. crassifolia, two very similar species. Pleurothallis Johannis, rubens, velatipes and pulchella are covered with flowers, and all seem to be easily grown. Another pretty little species is Trichipilia hymenantha, a Columbian plant which is often grown quite cool.

Only a few are in flower in the Cool house, among which are Satyrium coriifolium, roseum, carneum and odoratum, all belonging to the Cape Flora, and in conclusion we may mention again the handsome Paphinia rugosa, which deserves a place in every collection.

ODONTO.

CATTLEYA × IMPERATOR.

THE appearance of another example of this beautiful natural hybrid between Cattleya labiata and C. granulosa is an interesting matter. A plant in the collection of Sir Frederick Wigan, Clare Lawn, East Sheen, has just flowered, and has the same unmistakable combination of characters as those of the original plant, whose history has already been given in these pages (vol. v., p. 365). There are two diphyllons pseudobulbs, approaching those of C. granulosa, and a single monophyllons one, much like C. labiata, and the latter has produced a single flower, which is most like C. granulosa in shape and C. labiata in colour. The flower is larger than C. granulosa, and more membranaceous, while the side lobes of the lip are cut down more than half way to the base, and the front lobe has a long, broad unguis, which is one of the peculiarities of the species just named. The colour is bright crimson-purple, darker on the front lobe of the lip. The influence of C. labiata is also seen in the modified shape and size of the sepals and petals, the latter being barely under 4 inches long and $1\frac{3}{4}$ inches broad, and the lip $2\frac{3}{4}$ inches long by over $1\frac{1}{2}$ inches across the front lobe. The flower is much larger than in C. × Victoria-Regina, the corresponding natural hybrid between C. Leopoldi and C. labiata; the side lobes of the lip are also cut much deeper, and the stalk of the front lobe is much longer, in all of which the influence of C. granulosa is seen. Its history is not exactly known; indeed, it was thought to have come home with Lælia tenebrosa, until it flowered, when the characters above pointed out, and the fact that the pollinia are those of a true Cattleya, show that this species could not be one of the parents. It is not quite identical with the original plant, which I only know from the published figures. Other individuals will probably be heard of in future.

R. A. R.

ORCHIDS IN SEASON.

WE have now reached what might be called the winter period of our favourites, for as soon as the New Year is over a kind of reaction is noticeable in the vegetation. But if November forms part of the resting period, it does not apply to blooms, or only partially so, for many of the plants are now in flower. October brought us the first autumnal stars, and now we possess a beautiful display of bloom. Orchids in general seem to have been very forward this year, and this is accounted for by the exceptionally bright summer with which we have been favoured.

Among Cool house Orchids a few Odontoglossums are still in flower, and many others are showing, as O. Cervantesii, Rossii, Edwardii, cordatum, Pescatorei, and several of the crispum group. Cypripedium insigne is now forming a fine display of flowers and remains in perfection for a considerable

time, if kept in a dry place. The old but always pretty Sophronitis grandiflora is also opening, a few Masdevallias are showing, and the beautiful M. tovarensis will soon be in bloom. Pleiones are now in season, P. lagenaria, præcox, and maculata are showing their handsome flowers, Unfortunately, these plants do not possess any foliage at this time of the year, but, if some seedling Adiantums were placed among the bulbs, it would certainly improve the effect. The showy Oncidium macranthum is still pushing its long spikes, which measure, at least, a couple of yards in length. Cymbidiums are also beginning to show their spikes, but will not flower for another two months or so, with the exception of C. or Cyperorchis Mastersii, which is already blooming.

The Intermediate department is again the most brilliant, and a fine display is formed by Cattleya labiata, Harrisoniana, Loddigesii, and Lælia autumnalis, together with Lælio-cattleya × Schilleriana and elegans. There also numerous graceful spikes of Oncidiums incurvum, pulvinatum, ornithorynchum, dasytyle, excavatum, and Trulla, all covered with a multitude of flowers; while those of O. varicosum, bracteatum, tigrinum, unguiculatum, Forbesii, Geertianum, and obryzatum are opening. The handsome O. sarcodes is beginning to throw up its spikes, and it is evident that Oncidiums will soon be in their full season, and they are very useful for cut flowers.

A few Epidendrums are also worth mentioning. The strong-growing E. evectum, with its richly-coloured flower, is very effective, but requires space to grow it well. E. purum is another handsome plant which is very seldom met with in collections. E. inversum also is blooming freely. Among species showing for flower may be noted, E. ciliare and its variety latifolium, E. fragrans, the handsome E. Lindleyanum (usually known as Barkeria), and E. auritum. Maxillaria arachnites, M. variabilis and its varieties are also showing for flower.

Cœlogyne fimbriata is a very distinct species which keeps in flower for a considerable time. Zygopetalum intermedium is now very fine, as also is the beautiful Vanda Kimballiana. Lælia albida and Eyermaniana, also Lycaste fulvescens and lanipes, are all expected shortly.

The Warm house will improve every day. Dendrobium Phalænopsis and its variety Statterianum, D. bigibbum, and D. superbiens have already produced a beautiful display. Amongst species showing for flower may be mentioned D. aqueum and dicuphum, also the hybrids × Cassiope, × endocharis, and × euosmum, and some others will soon follow.

Cypripediums are in season, and a long list could be described as in flower and bud, as C. × Adonis, × Arthurianum, Argus, × Amesianum, bellatulum, callosum, concolor, × Fitchianum, × Pitcherianum, purpuratum, × Sallieri, Spicerianum, virens, &c.

Phalænopsis Esmeralda, Buyssoniana and Regnieri are now in full bloom, and it is curious to notice how closely allied are these three species. Cattleya superba and Dormaniana will soon be over, but have made a good show.

The flowers of Brassavola cucullata and grandiflora are very distinct, and the species succeed well grown on blocks. Oncidium Papilio and Kramerianum are two closely allied species whose flowers are very attractive. The beautiful Calanthe × Veitchii is now pushing up its spikes, and, when in flower, it produces a handsome show. Ansellia africana and nilotica are both worthy of cultivation, with their yellow flowers handsomely blotched with brown. Both are natives of Africa—in fact the whole of the genus. Catasetums are still flowering, and the great amount of variation between the different species is very curious. Lastly we may again mention Sobralia decora, Lowii and sessilis, which still keep on flowering, and are very pretty while they last.

We shall have now to keep a sharp look-out for foggy weather, which, as we all know, is very detrimental to Orchids in flower. We sincerely hope that we shall not have another winter like the last, whose effects were recorded in the January number of the present volume. Unfortunately, remedial measures are of little avail in a long-continued spell of fog.

ODONTO.

MILTONIA × BINOTI.

REICHENBACH once remarked, in connection with some Orchid that he was describing, that strange birds did not often alone, and its truth is often illustrated among natural hybrids. The one now under notice was described by M. Cogniaux in 1897 (*Gard. Chron.*, 1897, xxii, p. 393), as a natural hybrid between Miltonia candida and M. Regnellii, and was afterwards figured (*Dict. Icon. Orch.*, Milt. hyb., t. 4). It was sent by M. Binot, of Petropolis, Brazil, to M. A. A. Peeters, of St. Gilles, Brussels. A plant has now appeared in the establishment of M. E. Bert, Bois de Columbes, Seine, France, which M. Otto Ballif states was purchased as M. candida, though on flowering it proves quite different. In fact, it combines the characters of the two species just mentioned, and is certainly a form of M. × Binoti. In general shape, it approaches M. candida, but the lip is nearly flat, and suffused almost throughout with light purple, much like that of M. Regnellii, somewhat modified in shape, and a little incurved at the sides near the base. The sepals and petals are yellow, heavily barred with light brown, and are thus most like M. candida. Its appearance is very interesting.

R. A. R.

ORCHIDS AT HIGHBURY.

AUTUMN-FLOWERING Orchids are now making a brilliant show in the collection of the Right Hon. Joseph Chamberlain, M.P., at Highbury, near Birmingham. An account of the collection generally was given at pages 107-110 of our first volume, and we may now supplement it with a few notes of those which flower at this season.

Entering one of the Cattleya houses from the long corridor, we were confronted with some two dozen good plants of Cattleya labiata, forming a most beautiful group, and showing a considerable amount of variation in the flowers. Several plants of C. maxima were also flowering nicely. A very fine form of C. × Hardyana with three-flowered inflorescence was just over. Lælia Perrinii was nicely in bud, also the beautiful Cattleya × Mantinii and Lælio-cattleya × Sallieri. A fine lot of hybrids were suspended from the roof, and among them we observed two plants of Cattleya × Miss Endicott (maxima × Loddigesii) throwing up, one having quite large buds. C. × Brymeriana was just over. The rare C. × guatemalensis bore a good sheath, but the flowers do not push until the spring. C. × Chamberlainiana has three bulbs and a number of healthy roots, but is always a very slow grower. Lælio-cattleya × massiliensis, on the other hand, is remarkably vigorous. A seedling from Cattleya Loddigesii ♀ and Lælia pumila ♂ was nicely in flower, and must be considered a variety of L.-c. × Vedastii, derived from the reverse cross. A very interesting seedling derived from C. Harrisoniana ♀ and L. purpurata Russelliana ♂ was throwing up a sheath.

Two other houses, devoted largely to seedlings, contained many very interesting plants, notably a batch of nice little seedlings from Messrs. Charlesworth & Co., having Lælia Digbyana as the pollen parent. All were derived from different seed-parents, among which we noted Cattleya labiata, Gaskelliana, Warneri, Mendelii, Mossiæ, Warscewiczii, chocoensis, Eldorado, luteola, Lælia crispa, L. purpurata Russelliana, and others. They were obtained from Messrs. Charlesworth & Co., of Bradford, and should contain some striking things when they reach the flowering stage. Some small seedlings from Cattleya amethystoglossa × Lawrenceana should also be good. The seedlings of Sobralia macrantha reported as crossed with the pollen of Cattleya gigas (*Orchid Review*, I., p. 366) are rapidly approaching the flowering stage, but we fail to see any trace of the Cattleya parentage in them. Here we also observed a fine plant of Vanda cœrulea throwing up four strong spikes, and the dwarf Lanium Berkeleyi crowded with flower spikes. A curious phenomenon, which we do not remember to have noticed before, was a root of Saccolabium bellinum bifurcated at the apex.

An adjacent house contained a brilliant display of flowers, including

Dendrobium superbiens, some good D. Phalænopsis, D. formosum, some pans of the brilliant little Pleione lagenaria, several good Odontoglossum grande, Epidendrum alatum, Oncidium excavatum, obryzatum, and Jonesianum, Cattleya labiata amabilis, with white sepals and petals, and a purple blotch in the centre of the white lip, several good C. Bowringiana, one fine plant, which had grown through the bottom of the basket, having three fine racemes, the best with seventeen flowers. We also noted C. B. violacea and C. B. superba, the latter with unusually large flowers, and of exceptional richness of colour. Here also were several fine forms of Lælio-cattleya × Schilleriana, a very fine L.-c. × Cassiope (pumila × exoniensis) with two flowers, L.-c. × Cornelia (pumila × labiata) with a very dark lip, some good Lælia pumila præstans, &c.

In one of the Odontoglossum houses we noted in flower some good O. Rossii, O. apterum (nebulosum) O. bictoniense, O. Edwardii throwing up a splendid panicle, a fine O. coronarium on a raft, from which a spike had just been removed while two others were not yet open, the handsome Cochlioda vulcanica, Oncidium tigrinum, one of the forms being very fine and dark, and many Pleione lagenaria throwing up their flowers.

In an adjacent house, a large batch of Lælia anceps and its varieties were throwing up a forest of spikes, which promise a fine display of flowers. They are grown without the slightest shading. Cœlogyne cristata does well in a shaded part of the same house. Gongora galeata was in bud here.

Passing into another house, we found Miltonia spectabilis in flower, together with a good plant of Oncidium ornithorhynchum, O. crispum, O. Geertianum, several O. varicosum in bud, and Masdevallia × Measuresiana with nine scapes. Here we were much interested to see three good plants of the charming little Sophrocattleya × Chamberlainii, described at page 270. In an adjacent Odontoglossum house were four good forms of O. crispum, while many others were showing for flower.

Arriving among the Sobralias, we found the mysterious Sobralia Cattleya in the rudest health, and, though removed from the corridor, still shows no sign of flowering. The handsome S. Lindeni, however, was in bloom, and two large specimens of Cattleya Bowringiana were producing a succession of spikes. A fine lot of C. Dowiana, suspended from the roof, were pictures of health, but were mostly just past flowering.

In the Phalænopsis house we observed the rare P. Lowii in flower, also two plants of P. Esmeralda, together with Sarcochilus unguiculatus, whose fragrant flowers only remain open for a few hours. Phalænopsis Schilleriana and others were in excellent health. Here were seven plants of Dendrobium Phalænopsis finely in flower, and many others in bud, also the beautiful D. Dearei and Catasetum macrocarpum.

Passing along into another Cattleya house, we found plants of C. Loddigesii in bud, and several C. maxima in flower, C. m. peruviana being a handsome form, less distinctly veined than the type and with more colour on either side of the lip's disc. The species, generally, were in excellent health, and Mr. Smith informed us that he supplies the necessary ammonia by damping down with liquid cow manure.

The Calanthes occupied another house, and had made excellent growth, but are invariably troubled with spot at this season of the year, though kept rather dry. Some additional pipes have been laid with a view of checking it. Some Dendrobium Phalænopsis were growing well here, and a fine specimen of Lælia albida was throwing up a forest of spikes. L. anceps was also throwing up. Here a plant of Oncidium Jonesianum was pointed out which has kept in good condition for three or four years; also some tiny seedings of Cattleya Bowringiana ♀ × Sophronitis grandiflora ♂ which we hope to hear of again. A fine pod of C. citrina crossed with C. Skinneri, it is hoped will prove to contain some good seed.

In the Masdevallia house, which contains a fine lot of healthy plants, was a plant of the striking M. Schlimii, having six spikes, and a similar number had been removed. The rare M. Davisii had four buds not yet open.

These notes are chiefly devoted to the plants seen in flower at this season, which were numerous, and included many choice kinds; but the collection, generally, is in excellent health, and reflects great credit on Mr. Smith, who has succeeded Mr. Burberry in its charge.

PAPHIOPEDIUM × REGALE ABNORMAL.

A VERY remarkable flower of Paphiopedium × regale has appeared in the establishment of Messrs. Stanley-Mobbs and Ashton, of Southgate. The lower sepal is exactly like the dorsal one, in size, shape, and colour, and one of the two petals is missing, or rather united to the lip, for the union is apparent enough, though the united organ is like a somewhat abnormal lip, and is pulled round to the side opposite to the remaining petal. Perhaps most remarkable of all is the fact that there are two staminodes and two perfect anthers—though, owing to the displacement of the parts, it is difficult to say, precisely, which of the six potential stamens they represent. The two staminodes are opposite to the sepals. and if the upper one is the usual staminode, the other should represent the median stamen of the inner whorl (a 3 of the Darwinian notation). One perfect anther is opposite to the single petal, and the other, though

exactly opposite, is immediately underneath the stigma, which, like the lip, is turned round opposite the petal. This, I believe, is the true explanation of the changes which have taken place, and thus the flower is remarkable for the presence of a staminode, which is completely effaced in the normal flower. The only alternative is that the perfect anther, underneath the stigma, represents this missing stamen; but this, I think, is not the case, for the style is slightly twisted below the stigma, and the anther is slightly lateral at its insertion. Besides this, the relation of the other parts to each other only agree with the former enplanation. The peculiarity is not likely to be permanent, but is interesting for the light it throws on the modification which an Orchid flower has undergone.

R. A. R.

CATTLEYA DOWIANA IMSCHOOTIANA.

A VERY beautiful variety of Cattleya Dowiana has just flowered in the collection of W. S. M' Millan, Esq., of Maghull, Liverpool, in which the sepals and petals are white with a faint tinge of sulphur, forming a very striking contrast with the typical yellow form, with which it agrees in shape and in the colouring of the lip. The plant is an imported one now flowering for the first time. Two or three other forms having this character have previously appeared. The first which I find a record of was called C. aurea Imschootiana, and received a First-class Certificate from the Royal Horticultural Society on October 14th, 1890, when exhibited by Baron Schröder. It is described as having pure white sepals and petals (*Gard. Chron.*, 1890, viii, p. 447.) C. D. Hardyæ, for which Messrs. F. Sander and Co. received a First-class Certificate from the Royal Horticultural Society on August 27th, 1895, has sulphur-white sepals and petals (*Orch. Rev.*, iii., pp. 229, 320). The following year a similar award was given to C. D. Wheatley's variety, from the collection of F. Wheatley, Esq., of Teignmouth. This, too, had the sepals and petals white with only a very faint trace of yellow (*Orch. Rev.*, v., p. 348).

Whether any differences exist between these three named forms can only be ascertained by comparison, but it is clear that all represent what may be termed the albino form of this beautiful species, and those who are fortunate enough to possess them should take special care of them.

R. A. R.

THE HYBRIDIST.

Paphiopedium × Wiertzianum.

This is a large and striking hybrid, of which we have received a flower from Messrs. Linden, L'Horticulture Internationale, Brussels, with the record that it was raised from P. Rothschildianum × Lawrenceanum. In its large and broad dorsal sepal it most resembles the latter, but the petals are much more attenuated, and $3\frac{1}{2}$ inches long. The lip, also, has more of the character of P. Rothschildianum, while the staminode is obovate, convex and hairy, especially so near the base. The ground colour is yellowish-green, with about twenty-one dark purple-brown stripes on the dorsal sepal, and numerous similar spots on the petals almost to the apex. The lip is dark purple-brown. It appears to have a very robust habit, like both its parents, and will doubtless develop into a very fine thing. M. L. Linden, in his letter, remarks, "I have dedicated it to the memory of our celebrated painter, Wiertz."

Paphiopedium × J. Coles.

This a very handsome hybrid raised in the collection of R. H. Measures, Esq., the Woodlands, Streatham, according to the record, from a fine P. × Godefroyæ lencochilum crossed with the pollen of P. Dayanum superbum. In shape it most resembles the latter, but the petals are densely covered all over with small purple dots, and the numerous lines of the dorsal sepal are made up of innumerable minute dots, with a few scattered ones between the veins. The lip is also most like the latter species, and the staminode is transversely elliptical-oblong, and convex, with a triangular acute apex, and many minute purple dots on a lighter ground. There is very little resemblance to the first-named parent, at all events in the shape of the flower, and one would rather have thought of P. superbiens as one of the parents. The ciliæ of the petals are also shorter than in the case of most hybrids derived from P. Dayanum. Mr. Coles, however, remarks that there is not the slightest doubt about the record, and this point may be left until other seedlings flower.

Paphiopedium × Eros.

This fine hybrid was raised in the collection of A. W. Wills, Esq., Wylde Green, Birmingham, from Paphiopedium barbatum Warneri crossed with P. × Charles Canham (villosum × superbiens), and, as might be expected, bears a certain resemblance to P. × Harrisianum, though the petals and lip are more distinctly light purple in shade. The dorsal sepal and lip are each $2\frac{1}{2}$ inches long, and the petals measure 3 inches long, and thus it will appear that the flower is above the average size. We have received from Mr. Wills a photograph showing the entire plant—which is of vigorous

habit, and is grown in a 3-inch pot—together with the flower, which, as Mr. Wills remarks, is very large and bold for so small a plant, and of more than ordinary beauty. The dorsal sepal is ovate, deep ruddy brown below passing into light green above with darker veins; the petals of a warm pink-purple, with darker veins, and lighter on the lower side; and the lip madder brown in front and pale green behind. These modified characters are evidently due to the influence of P. superbiens.

Cattleya × Maroni.

This is a most beautiful hybrid, raised by M. Ch. Maron, of Brunoy, Seine et Oise, France, between Cattleya velutina ♀ and C. Dowiana aurea ♂, which was exhibited at the meeting of the Royal Horticultural Society, on October 25th last, when the Orchid Committee showed their appreciation of it by the award of a First-class Certificate. It combines the characters of the two parents in a very pleasing manner, the sepals and petals being about intermediate in size and shape, and of a peculiar bronzy yellow tint, and the lip three-lobed, yellow at the base, veined and tinged with purple-crimson, with the principal veins rather prominent. The inflorescence bore seven flowers, and the plant appears to have a very good constitution. Although greatly modified in size, shape, and colour, the influence of the seed parent is very apparent, particularly in the shape of the lip, the influence of the seed parent being seen in the enlarged sepals and petals, the loss of the spots, and the enlarged side lobes and rich colour of the lip.

STANHOPEA CONNATA.

This very distinct Stanhopea, which is so rarely met with in gardens, has re-appeared at Glasnevin, a plant which was purchased by Mr. Moore as S. Calceolus having just flowered there. The species was originally discovered by Warscewicz in Northern Peru, and flowered in the collection of Herr Mathieu, at Berlin, in 1854, being described by Klotzsch (*Allg. Gartenz*, 1854, p. 226). It is nearly allied to S. devoniensis, Lindl., but has much smaller flowers, and was separated from the species of that group by Reichenbach, on account of the lip having only a single articulation between the globose hypochil and the mesochil. The flowers have a powerful fragrance, like many others of the genus, and the colour is deep buff yellow, with some small purple spots on the sepals, some larger darker ones on the lower part of the petals, and the sides of the hypochil of the lip thickly marbled and spotted with the same colour. Several of these small-flowered Stanhopeas are still very imperfectly known.

R. A. R.

ODONTOGLOSSUM CRISPUM PRINCE OF WALES.

THE history of this beautiful variety was given at page 220 of the present volume, and the discussion which it gave rise to at pages 227, 244 and 283 will be fresh in the minds of our readers. Concerning the disputed point as to the exact size of the flowers, we have now some further evidence, in the shape of a photograph taken by Mr. I'Anson, and kindly forwarded by Messrs. Low. This was carefully taken of the *exact size* of the flower, and the same care has been taken with our reproduction of it, so that the present

FIG. 16. ODONTOGLOSSUM CRISPUM PRINCE OF WALES.

figure may be taken as a standard for the comparison of other large flowers which may appear in future. The missing tips of three of the segments were wanting also in the photograph. It is generally admitted that this is the largest form of this beautiful species which has yet appeared. It is certainly a noble flower in every respect, and the few spots, being absolutely

confined to the lip, seem to enhance its beauty. Other particulars have been so recently given that it seems unnecessary to repeat them. It is now in the famous collection of Baron Sir H. Schröder, at The Dell, Egham, and we shall hope to hear of its behaviour another season, for there is something quite exceptional about it. Messrs. Hugh Low and Co. must be congratulated on having introduced so striking a plant.

PAPHIOPEDIUM × SHIPWAYÆ.

A MOST interesting novelty has just appeared in the collection of Colonel Shipway, Grove Park, Chiswick. Mr. Walters, Colonel Shipway's gardener, states that it was purchased from Messrs. Linden, of Brussels, as Cypripedium—or Paphiopedium—Dayanum, but, on flowering, it has proved to be very different; in fact, much more like P. Hookeræ, another Bornean species, and a careful comparison of all the characters forces me to the conclusion that it is a natural hybrid between them. The leaves are more strongly marked than is usual with P. Dayanum, in which respect it approaches P. Hookeræ. It has also an elongated scape, as in the latter, and the size, shape, and colour, are much more like those of this species, from which, however, it is still very distinct, and the modifying influence, I think, must be traced to P. Dayanum. The dorsal sepal is distinctly lined with green at the base, and becomes whitish, slightly tinged with purple, round the upper margin, the apex also being slightly elongated and folded. The petals, though much like P. Hookeræ in colour, are not obovately widened at the apex, and the ciliæ are also much longer. The basal part is green, and a few small spots occur below the middle. The lip is most like P. Hookeræ, and the staminode is orbicular in outline, but, instead of being obcordately bilobed, has a pair of falcate teeth at the apex, with a much shorter blunt tooth between. No other Bornean species, so far as I can see, would account for the characters above pointed out, and it now remains for some of our hybridists to prove or disprove the suggested parentage by crossing the two species together. It is remarkable that this makes the fourth Bornean Paphiopedium believed to be of natural hybrid origin, and in each case P. Dayanum is believed to have been one of the parents (see *Orchid Review*, iv., p. 366). Its appearance is very interesting, and the gradually accumulating evidence of the way the Bornean species grow together suggests that we have not yet exhausted the list, and, as other combinations are possible, a sharp look-out should be kept for such plants among Bornean importations.

R. A. R.

THE NEW ORCHID HOUSES AT KEW.

A NOTE relating to the re-construction of the Orchid houses at Kew appeared on page 193, and as the work is now completed, and the plants installed in their quarters, a few additional particulars will be interesting.

It will be remembered that the old houses formed the east wing of the T-range, being entered by a small lobby devoted to insectivorous plants. This wing was divided in the middle by a glass partition into a Warm and a Cool house, each having a large stage in the centre, two narrow stages next the glass, and a walk between on either side. Many of the plants in the centre being too far away from the glass, it was decided to replace the two large houses by four smaller ones, and, as these were to occupy the same site, the plants were temporarily placed in two houses in the north wing of the same range. The space occupied by the lobby at the end of the old houses was also taken in, so that the new ones are several feet longer than those which they replace.

The new houses are each about 40 feet long and 12 feet wide, arranged in two pairs, side by side, with a walk running along the centre. The adjacent houses ventilate into each other by means of a space between the party wall and the glass division. This runs throughout the entire length of the houses, and ensures a constant circulation of air between them. Bottom ventilation on the outside is provided by shutters in the outer walls, hinged along the south side and sliding on the north. The top ventilators are hinged, and open upwards by hand, each separately. They are all placed along the adjacent sides of the roofs, an arrangement which will be readily understood in connection with the method of shading employed. The tiffany blinds are carried on three long rollers, one on each of the two outer roofs, which run on the rafters direct, and the other runs on a number of horizontal iron bars which are carried from one apex to the other. By this arrangement it is obvious that not only can the ventilators be opened beneath the shading, but also one blind suffices instead of two. The glazing is Rendle's system, and the rain water from the roof is collected into tanks within the houses.

The respective houses are arranged as follows:—Entering from the Victoria house on the south side, the visitor finds himself in the Warm or East Indian house, and then passes on into the Cattleya or Intermediate house. Behind this is the Cool house, while the remaining one on the north side is largely devoted to plants of the Vanda and Cypripedium groups. The lattice-work stages running round what may be termed the outer sides of the block are in four tiers, with a solid stage holding moisture-retaining materials underneath. On the inner side of the two north houses extends a water-tank, from one end to the other, and above

this is a horizontal lattice-work stage. The inner sides of the two remaining houses are devoted to tall plants, most of which stand on the ground level on a bed of small clinkers, but here a number of brackets are attached to the partition for some of the smaller plants to stand on. The tanks only extend into one of these two houses in the corner, for convenience of dipping the water out, but the opening along the middle, aided by the cooler temperature of the houses on the north side, will enable the inmates to enjoy a share of the moisture-laden air from the tanks. Very few plants are suspended from the roof at present.

Some alterations have also been effected in the private houses behind. The potting shed has been thrown into the adjoining pit, and is now used as the Warm pit, while the two on the east side are united into one long Intermediate pit, with the Cool pit on the north. A new glass-roofed potting shed has been erected on the east of the Intermediate pit, and the passage connecting this with the pits and the Orchid houses has been entirely covered with glass. The latter will be a great boon in rough and cold weather, but it seems to emphasize the unfortunate loss of the lobby at the east end of the block, for visitors now have to step into the open air in passing from the Intermediate to the Cool house, an arrangement not likely to benefit the plants when the cold east winds come.

The additional space provided has, we believe, allowed nearly all the Orchids, with the exception of a few special things, to be brought together, and the Dendrobium pit alone is now unconnected with the other houses.

It is believed that these arrangements will prove of great benefit to the collection. It is generally admitted that Orchids, with few exceptions, succeed best in houses of moderate size, and the command of four different "climates" instead of two, should give increased facilities to the cultivator. These points, however, must be left for the future to decide. All one can see at present is that the collection looks well in its new quarters, and that there is a very good display of autumn-flowering species.

ORCHIDS AT THE BIRMINGHAM BOTANIC GARDEN.

Among the numerous interesting plants which the veteran Curator of the Birmingham Botanical Gardens, Mr. W. B. Latham, has under his charge is a good representative collection of Orchids, which we have recently had the pleasure of inspecting. They are grown in several houses, some of them partly devoted to other plants, a method which we have frequently seen carried out with great success.

A number of interesting things were blooming, among the first being several plants of the fine old Cattleya labiata in flower and bud, together with that other useful autumn-flowering species, C. Bowringiana. Some plants of the former, obtained about two years ago, proved to be affected with the Cattleya fly, and a batch of C. Mossiæ was also badly affected, and gave considerable trouble before it was finally stamped out. Dendrobium Phalænopsis was flowering nicely, and D. formosum was not yet over for the season. The former may be mentioned as affording another instance of the necessity of watching imported plants, for some of the old pseudobulbs were found to be riddled by beetles, though with a little attention they were soon stamped out.

The charming little Pleione præcox was nicely in flower, also the handsome Vanda Kimballiana, while Lælia autumnalis was throwing up several strong spikes. L. anceps was not coming up so well, which is attributed to the house being in a somewhat shaded position. This species seems to like all the sun and light possible.

A good plant of the fine old Stauropsis lissochiloides was observed, from which the spike had recently been cut, and it is said that it flowers every year. Among Cool Orchids very little was in flower, though we observed Masdevallia Chimæra, Scaphosepalum ochthodes, and a plant or two of Odontoglossum crispum.

The tribe Cypripedieæ was well represented, one of the most interesting being the new Paphiopedium × Deedmanianum, which was figured at page 49 of the present volume. It is evidently a free grower, and two good plants were throwing up their scapes. P. × Lathamianum was throwing up strongly, and it is interesting to note that this fine hybrid has been raised in the collection also from the reversed cross. Several plants of P. Spicerianum were in flower, some of them being seedlings. Mr. Latham informed us that, when he obtained his two original imported plants, some clay was found clinging to the roots, and on this clay a number of seedlings appeared, which were taken care of, and on reaching the flowering stage proved to be self-sown seedlings. These differed somewhat between themselves, one having a longer scape than the others, though somewhat inferior in the flower. This, now bearing five flowers, and other seedlings, we saw in bloom.

A home-raised batch of P. × Allanianum (Spicerianum × Curtisii) has reached the flowering stage, one plant bearing a very fine flower, and another, a two-flowered scape. A nice batch of seedlings from P. callosum × Spicerianum showed a strong habit and handsome foliage, and some plants of P. × nitens × Charlesworthii, about three years old, represent a very interesting cross. P. × Lathamianum × Chamberlainianum was represented by some small seedlings. A good plant from Major Mason,

derived from a cross between P. Rothschildianum and P. Stonei, represents a most interesting cross, whose flowering is awaited with interest.

Other plants in flower were P. × Harrisianum superbum, a fine home-raised P. × Ashburtonæ, and two good plants of P. Chamberlainianum which are almost always in flower. P. insigne was throwing up plenty of scapes. Lastly may be mentioned a good plant of Phragmipedium × Sedeni nicely in flower.

Two very interesting seedlings which we must not omit to mention are Cœlogyne speciosa × C. cristata, and one recorded as Epidendrum vitellinum × Thunia Marshalliana, though, from the appearance of the two bulbs, it is feared that the latter is a stray seedling from some other cross, a point, however, which cannot be decided at present.

It will be seen that some very interesting experiments in hybridisation are being carried on in the collection, which will probably be heard of again when they flower. Both Mr. Latham and his able foreman, Mr. Deedman, are much interested in the work, and the batch of unflowered seedlings may be expected to yield other meritorious garden plants besides those to which their names are respectively attached.

CALENDAR OF OPERATIONS FOR NOVEMBER.

By H. A. Burberry, King's Heath, Birmingham.

The temperatures in all departments may now fall about five degrees from those mentioned for last month. My remarks on watering, damping down, &c., will also apply with equal, or greater, effect for this month. Little indeed will be required to keep the atmosphere in a well-balanced and healthy condition.

We are now entering on a period when the stoking of the fires is a most important factor in the cultivation of Orchids. The more skilfully and scientifically this work is performed, the better for the welfare of the plants. To have a sufficiency of heat regularly, and no more, should be the sole aim of the operator.

The traditional heavy and dull November day has the effect of driving the lover of beautiful flowers to the glass houses for the greater part of his leisure hours; for there his autumn and winter-blooming Orchids have then an alluring and special charm, their lovely colours seeming doubly brilliant, standing out as they do in strong contrast to the chilly and dreary conditions outside. With delight his Orchid houses are entered, the admiration of each individual pet becoming stronger and stronger on each occasion.

In fairly representative collections, there should be no lack of bloom this month. There will still be a good many of those species yet to flower which were mentioned for last month, while many additional kinds will be coming forward. Such, for instance, as the autumn and winter-blooming Cypripediums, like C. Charlesworthii, introduced by Messrs. Charlesworth & Co., of Bradford, some few years since. It is a lovely species, though somewhat variable, some varieties having enormous dorsal sepals entirely suffused with a lovely soft purple, whilst others are smaller, and the upper half of the dorsal sepal graduating into a whitish hue. It is of easy growth, and does well in either the Cool or Intermediate house.

Then we have that well-known and beautiful species, Cypripedium Spicerianum, now rapidly coming along. This species has been known to cultivators for about twenty years, being then extremely rare and costly, the well-known firm of Messrs. James Veitch & Sons, of Chelsea, having the sole stock, its native habitat being then unknown even to them. Shortly after this, its habitat was discovered, and it was then imported in such large quantities that plants could be purchased for a few shillings a-piece. This species is also variable, chiefly in the dorsal sepal, the greatest half of which is clear white. Some are larger and more handsome than others, whilst some have a wider and more distinctive band of bright purple running up the centre. Many of these finer varieties have, from time to time, and rightly or wrongly, received descriptive names, as, for instance, C. S. magnificum, C. S. grandiflorum, &c., names which, I regret to say, cannot always be fully relied upon. It is of easy culture, and should be treated like the first-named species.

Then again, we have that very old favourite, Cypripedium insigne, which is grown in such enormous quantities for the markets. Here again, great variation takes place, chiefly in the dorsal sepal. Several varieties are now well known under their distinctive names. This species was first introduced into gardens as far back as 1819, and so hardy is it, and so easily grown, that it now abounds in almost every home where there is a greenhouse.

Another good old Cypripedium for November blooming is C. venustum; likewise a very old friend, having been first imported about the same period as the last named. It is also an easy species to cultivate, the Cool or Intermediate house suiting it admirably. Nor must we forget here to mention that highly polished species, Cypripedium villosum, its shining flowers always being welcome during the winter months. It also prefers the Cool house in which to grow, and, when properly cared for, develops quickly into specimen plants, bearing a large number of flowers.

Perhaps the hybrid Cypripediums in flower this month will even outnumber the species in quantity, and will also vie with them closely as to beauty. There is now a large army of hybrids, many of which have

descended from the above-named species, and consequently are at once beautiful and useful as decorative flowers, and of extremely simple and easy culture. I allude to such lovely hybrids as C. × Arthurianum (C. insigne × Fairrieanum), C. × Crossianum (C. insigne × venustum), C. × Lathamianum (C. Spicerianum × villosum), C. × Leeanum (C. insigne × Spicerianum), C. × œnanthum (C. × Harrisianum × insigne Maulei), C. × Sallieri (C. villosum × insigne), C. × vexillarium (C. barbatum × Fairrieanum), which are only a few among many too numerous to mention.

Pleione birmanica, P. lagenaria, P. maculata, and P. præcox (Wallichiana) having now finished blooming, will start to grow again straight away. The keeping of these plants dry at the roots during winter, with an idea of resting them, is harmful. They should at once receive what attention is deemed necessary regarding re-potting or basketing, and then be placed in the Cool house well up to the light, the compost being kept just moist only. The roots are then enabled to make headway slowly but surely, without again having to be disturbed. I believe Pleiones are really best if given new material—which need only be sphagnum moss and peat—annually; they may, however, be left in the old compost for a season without anything in the least serious happening. When they are done up, one has to set the little crocus-like pseudobulbs half buried in the compost; otherwise the new roots are incapable of at once taking a firm grip, which is very essential to their future welfare.

Oncidium Jonesianum generally blooms at this season, and is a very desirable species when well grown and bloomed. Block culture seems to suit it best, and a Warm house provides the most suitable position. The greatest error in growing this beautiful species occurs in the watering. It is very much like Cattleya citrina in this respect, a little water about its roots being sufficient to meet its natural requirements, and by this treatment both are kept free from spot and other fatal diseases which too much water promotes.

Among other Oncidiums in bloom this month is often seen the pretty little bee-like species, O. dasytyle. It is a winter-blooming species, growing best in small pans or baskets and suspended from the roof of the Cool house. It requirements as regards rest are quite similar to other Oncidiums of this class, as, for instance, O. crispum, Forbesii, tigrinum, varicosum, and some others, which, after flowering, are inactive for the remaining part of the winter, and should receive but little water. Then there are the lovely little species, O. curtum, O. Gardneri, and O. prætextum, which are unfortunately not so common in cultivation. These do not generally bloom until the spring months, and therefore are more or less growing throughout the winter, and should on that account be given intermediate temperature, and a little more water at the root.

The genus Oncidium is a very large one, and it would be extremely interesting to see a complete collection of them under cultivation. Perhaps there are some few among them only worth growing from the standpoint of the botanist, but, if so, I have not yet seen them, though many cannot be classed among showy Orchids. At the same time they are of such a graceful and attractive character, when closely viewed, that the more one is acquainted with them the more enamoured one becomes. Since the advent of the varions crazes, commencing with hybrid Cypripediums and closely followed by those of Dendrobium, then Lælias and Cattleyas, not to speak of the special craze for "albinos" and densely "spotted" forms, I fear the cultivation of these pretty old Oncidiums has fallen somewhat in the background. O. Harrisonianum, divaricatum, sphegiferum, and pulvinatum are pretty, old-fashioned species, which used to be grown into large specimens, in baskets containing mostly peat pressed in firmly, and suspended in intermediate temperature.

Cattleya Bowringiana is most useful for this month, and deserves to be grown in quantity. When vigorous, it produces immense trusses of flowers, having from ten to twenty blooms on each spike, and when so grown is a wonderfully telling species. It has now been known for about fourteen years, 1884 seeing the first importation. It has proved to be most amenable to culture, small plants at that date having now developed into very large specimens. It is best re-potted when growth takes place in early spring, and, if pots are used, should always be elevated high above the rim, the new growth always having a tendency to grow lower each year, and if one is not watchful, the new growth may go down among the crocks. I really should advise basket cultivation, using but few, if any, crocks, the growths then, if they do go downwards, again make their appearance through the sides or the bottom. Plants so allowed to ramble look rustic and interesting enough, but when it is deemed necessary to re-basket them, they are awkward customers to again make shapeable. They will last a long while, however. without being disturbed. Any plants of Cattleya Lawrenceana not having yet completed their new pseudobulbs, should be encouraged to do so quickly, by giving them the warmth of the East Indian department.

Plants of Odontoglossum citrosmum have mostly, by this time, completed their new pseudobulbs, and when so, should receive a good rest throughout the winter, in order to make them bloom the better. Any other intermediate growing Odontoglot, as for instance, O. grande—now nearly over for the season,—O. Reichenheimii, O. Insleayi, O. hastilabium, and O. Londesboroughianum, should likewise be rested, receiving just sufficient water to maintain plumpness.

Miltonia vexillaria is a species continually engaged in active growth.

No sooner has it finished flowering, about midsummer, than the new growths again start away from the base, and continue to grow throughout the winter. They should, therefore, if possible, have the warmth of the Cattleya house during winter, but be watered sparingly, for if overdone with water—which is very easy—the foliage becomes more or less spotted, and the leaves commence to decay at the apex, which portion should be trimmed away with a sharp knife. The whole genus prefers the Cattleya house, excepting M. Roezlii, which does best in the East Indian house.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

A MEETING of this society was held at the Coal Exchange, Manchester, on Friday, October 14th, 1898, when there was a good display of Orchids, and the following members of the Committee were present:—Messrs. W. Thompson, in the chair, G. W. Law-Schofield, A. Warburton, J. Leemann, J. Cypher, W. Holmes, R. Johnson, W. Stevens, and T. Mills (hon. sec.).

W. Thompson, Esq., Stone, Staffs (gr. Mr. Stevens), was awarded a Silver Medal for a fine miscellaneous group, in which autumn-blooming things were well represented.

A. Warburton, Esq., Haslingden (gr. Mr. Lofthouse), showed a beautiful form of Lælia præstans, with white petals and sepals and lip slightly coloured with purplish red (Award of Merit); and Cypripedium × Nandii, a very beautiful cross between C. callosum and C. × Tautzianum (First-class Certificate).

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed Vanda Sanderiana (Award of Merit); Cypripedium × Juno; C. × Moensii; and C. × orphanum (Award of Merit).

Thos. Statter, Esq., Whitefield (gr. Mr. Johnson), showed a fine form of Cattleya Dowiana called C. aurea magnifica (Award of Merit); C. × Ashtoniana (Award of Merit); C. Warscewiczii; and Cypripedium × Alfred.

Mrs. Briggs-Bury, Accrington (gr. Mr. Wilkinson), showed Cypripedium × Lilian Greenwood (Award of Merit); C. Charlesworthii rubescens (Award of Merit): and C. × McNabianum.

Dr. Horton Smith, Northwich (gr. Mr. Holmes), showed Lælio-cattleya × elegans Turneri (Award of Merit).

E. S. Clark, Esq., Wrexham (gr. Mr. Edwards), showed Lælia præstans and Cypripedium × Alton.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), showed Cypripedium × Pollettianum, C. × Pageanum, C. Charlesworthii and C. purpuratum.

Richard Ashworth, Esq., Newchurch (gr. Mr. Pidsley), showed Cattleya × Mantinii (Award of Merit), and Miltonia vexillaria Leopoldi (First-class Certificate).

John Richardson, Esq., Hale (gr. Mr. Jenkins), showed a very fine Vanda cœrulea, which received both an Award of Merit and a Cultural Certificate.

Mr. A. J. Keeling, Bingley, showed Cattleya × Hermione (Award of Merit) and Cypripedium × Arthurianum pulchellum.

Messrs. Hugh Low & Co., Enfield, showed Dendrobium × Leeanum enfieldense and Cymbidium Traceyanum, the latter a very fine form, which received a First-class Certificate.

Mr. John Robson, Altrincham, showed Sophronitis grandiflora and Cypripedium × Leeanum.

At the meeting, held on October 27th, many beautiful Orchids were staged, three of which secured First-class Certificates, and eight Awards of Merit.

Present :—Messrs. G. Shorland Ball, in the chair, G. W. Law-Schofield, A. Warburton, J. Leemann, H. Greenwood, J. Backhouse, W. Bolton, J. Cypher, R. Johnson, W. Stevens, and T. Mills (hon. sec.).

John Leemann, Esq., Heaton Mersey (gr. Mr. Edge), showed Cattleya labiata (Award of Merit), C. l. Peetersiana (First-class Certificate), C. l. Leemanni (First-class Certificate), C. × Mantinii inversa, Lælio-cattleya × Henry Greenwood (Award of Merit), L.-c. × Ophelia (Award of Merit), also L.-c. × Sallieri magnifica, Cypripedium × Arthurianum, C. × Eucharis and C. × orphanum. He also exhibited a very fine group, for which he received the Society's Silver-gilt Medal.

A. Warburton, Esq., Haslingden (gr. Mr. Lofthouse), showed Cattleya labiata, R. I. Measures' variety (First-class Certificate), and C. × Hardyana Massaiana.

W. Thompson, Esq., Stone, Staffordshire (gr. Mr. Stevens), exhibited Lœlia Perrinii alba, for which he received a Vote of Thanks.

Thomas Statter, Esq., Whitefield (gr. Mr. Johnson), showed Cattleya labiata Statteriana (Award of Merit), Dendrobium Phalænopsis albens, Lælio-cattleya × Minerva : also a fine group, for which he was awarded the Society's Silver Medal.

H. Shaw, Esq., Birch Vale (gr. Mr. Cliffe), showed Cattleya × Mantinii (Award of Merit), Catasetum Bungerothii, a good Lælia Dayana, and Cypripedium insigne.

W. Duckworth, Esq., Flixton (gr. Mr. Tindale), showed Cattleya × Mantinii nobilior, which received an Award of Merit.

The Ven. Archdeacon Rawstone, Blackburn (gr. Mr. Hewitt), showed Paphiopedium × Deedmanianum inversum.

Mr. J. Cypher, Cheltenham, showed Cattleya labiata superba (Award of Merit), also a good group, for which he was accorded a Vote of Thanks.

Mr. J. Robson, Altrincham, showed Cypripedium insigne Robsonæ and C. insigne pallidum, also a good group of Cypripediums for which he received a Vote of Thanks.

Messrs. J. Backhouse and Son, York, showed a splendid plant of Oncidium tigrinum, to which both an Award of Merit and a Cultural Certificate were given.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THE display of Orchids at the Royal Horticultural Society's meeting, at the Drill Hall, James Street, Westminster, on October 11th, was very good, and some particularly interesting things were included among the exhibits. The members of the Committee present were as follows:—H. J. Veitch, Esq., in the Chair, and Messrs. J. O'Brien (hon. sec.), H. Ballantine, T. W. Bond, H. J. Chapman, W. Cobb, S. Courtauld, De B. Crawshay, J. G. Fowler, J. T. Gabriel, T. B. Haywood, E. Hill, H. Little, H. M. Pollett, F. J. Thorne, W. H. White, and W. H. Young.

The President, Sir Trevor Lawrence, Burford, Dorking (gr. Mr. White), staged a very choice group, including the beautiful albino, Dendrobium Phalænopsis hololeucum, a nearly white form of Lælia pumila, and a richly-coloured form called L. præstans purpurea, which has been in the collection since 1882, the handsome Miltonia Lamarcheana, a well-bloomed Cypripedium × regale, C. × Lawrebel bearing two handsome flowers, a fine pan-full of the brilliant Habenaria militaris, two fine cut racemes of Lælio-cattleya × exoniensis, from one of the original plants, which has been in the collection ever since it was originally sent out by Messrs. Veitch about thirty years ago, Cattleya × St. Benoit (Schrœderæ × Aclandiæ), a beautiful hybrid with light rose-purple sepals and petals, and a magenta-purple lip, and the rare Epidendrum porphyreum, bearing panicles of orange-coloured flowers with a white lip, which changes to yellow. A Botanical Certificate was awarded to the latter.

Messrs. de Rothschild, Gunnersbury House, Acton (gr. Mr. Hudson), staged a splendid group, consisting of thirty-four fine specimens of Dendrobium formosum giganteum, bearing an aggregate of nearly seven-hundred flowers, and some good examples of Vanda Kimballiana and Odontoglossum grande. A Silver-gilt Flora Medal was awarded in recognition of the excellent culture and floral beauty of the group.

B. B. Baker, Esq., Palace Road, Roupell Park, Streatham, sent a fine

specimen of Odontoglossum grande bearing twenty-five flowers, to which a Cultural Commendation was given.

W. A. Bilney, Esq., Fir Grange, Weybridge (gr. Mr. Whitlock), showed two finely flowered plants of Lælia pumila, which also received a Cultural Commendation.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), sent a hybrid Cypripedium with dark flowers, approaching those of C. × Harrisianum superbum, and a noble specimen of Vanda Sanderiana bearing five spikes and an aggregate of fifty-one flowers and buds. A Cultural Commendation was awarded to the latter.

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, sent the rare Zygopetalum Gibeziæ and Maxillaria longissima, a Botanical Certificate being awarded to the latter.

Messrs. James Veitch & Sons, Royal Exotic Nurseries, Chelsea, staged a very choice group, including the handsome Dendrobium × rhodostoma, which received an Award of Merit, good examples of Lælio-cattleya × Nysa and L.-c. × callistoglossa ignescens, also L.-c. × Dominiana langleyensis (Lælia purpuruta ♀ × Cattleya Dowiana ♂), a superb hybrid to which a First-class Certificate was given. This is a reproduction of one of Messrs. Veitch's earliest and best hybrids, and attracted much attention. The sepals and petals are pale pink, the latter being delicately veined with purple, and the lip rich claret-purple, margined with lavender and veined with yellow at the base.

Messrs. G. Paul & Son, The Old Nurseries, Cheshunt, exhibited a fine group of Masdevallia tovarensis thickly covered with its charming, pure white flowers, and some good Cypripedium Spicerianum. The former had been grown in a cold frame all the summer, shaded with wood lath blinds. The pots are enclosed within an outer pot, the latter standing in water, and the treatment is very successful. A Silver Banksian Medal was awarded to the group.

Messrs. Hugh Low & Co., Bush Hill Park, Enfield, were awarded a Bronze Banksian Medal for a very pretty group, containing the fine Cymbidium Traceyanum, Dendrobium × Leeanum, D. Lowii, Vanda cœrulea, Lælio-cattleya × Schilleriana, Cycnoches chlorochilon, Odontoglossum grande, O. cariniferum, Cattleya superba splendens, C. Bowringiana, Oncidium ornithorhynchum album, Cypripidium × Sallieri Hyeanum, &c.

Messrs. Charlesworth and Co., Heaton, Bradford, sent a three-flowered inflorescence of Sophrocattleya × Cleopatra (S. grandiflora ♀ × C. Leopoldi ♂), a very pretty hybrid, to which an Award of Merit was given. The flowers are fairly intermediate in character, the sepals and petals being reddish, and the lip three-lobed, yellow at the base, with the front lobe and tips of the side lobes bright cherry-red.

Messrs. B. S. Williams and Son, Upper Holloway, showed Cypripedium Charlesworthii magnificum, Vanda concolor, and the handsome Lælio-cattleya × Henry Greenwood (Lælio-cattleya × Schilleriana × Cattleya × Hardyana), an Award of Merit being given to the latter. This is said to have been from the same batch as the one exhibited at Ghent, and has the sepals cream coloured and tinged with pink, the petals veined with rose-purple, and the lip velvety purple in front, chrome yellow on the disc, and veined with purple on a light ground at the base.

Messrs. F. Sander and Co., St. Albans, staged a choice group, including the handsome Miltonia vexillaria Leopoldi, Habenaria carnea, the new Dendrobium puniceum (Rolfe) with pretty heads of orange-red flowers, Maxillaria striata, a fine pan of Stenaglottis longifolia, Lælia pumila, Cattleya × Mantinii inversa, Saccolabium curvifolium, &c. A fine plant of Angrœcum ichneumoneum received both a Botanical Certificate and a Cultural Commendation.

At the meeting held on October 25th there was again a good display of Orchids, and one sterling novelty gained the award of a First-class Certificate. The following members of the Committee were present:—H. J. Veitch, Esq., in the chair, and Messrs. J. O'Brien (hon. sec.), T. W. Bond, H. J. Chapman, S. Courtauld, De B. Crawshay, J. Douglas, J. T. Gabriel, T. B. Haywood, E. Hill, H. M. Pollett, F. Sander, W. Thompson, H. Williams, C. Winn, and W. H. Young.

Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (gr. Mr. Young), staged a very pretty group, to which a Silver Banksian Medal was awarded. It contained a fine plant of Cyperorchis elegans with eight racemes, the pretty Spathoglottis Vieillardii, Cymbidium × Winnianum, a fine Cattleya labiata alba with a three-flowered raceme, a good form of C. Eldorado, Cypripedium × Arthurianum, C. × Maynardii superbum, C. × Godefroyæ leucochilum, Lælio-cattleya × Hon. Mrs. Astor, some good forms of Lælia pumila, and L. Perrinii leucophæa, the latter a charming white form tinged with lavender, and a slaty blue lip, to which an Award of Merit was given.

J. Coleman, Esq., Gatton Park, Reigate (gr. Mr. King), received an Award of Merit for Lælia pumila Colemanii, a fine form with blush white sepals and petals, and the front of the lip marked with purple and rose.

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, sent Satyrium longicauda, an interesting Cape species, and the rare Angræcum Germinyanum, the latter receiving a Botanical Certificate.

Walter Cobb, Esq., Dulcote, Tunbridge Wells (gr. Mr. Howes), sent a yellow form of Cypripedium insigne, called C. i. Cobbianum. It had traces of the spots on the dorsal sepal.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. Davis), sent a yellow form of Cypripedium insigne similar to the preceding, called C. i. Glebelands variety.

W. A. Gillett, Esq., Fairoak Lodge, Bishopstoke (gr. Mr. Carr), sent cut examples of fine varieties of Cattleya labiata, C. Warscewiczii, and Dendrobium Phalænopsis.

H. Greenwood, Esq., Highfield, Haslingden (gr. Mr. Gill), showed the beautiful Lælio-cattleya × Henry Greenwood (C. × Hardyana × L.-c. × Schilleriana), bearing a three-flowered inflorescence, the sepals and petals being delicately tinted with light rose, and the lip rich maroon-purple in front.

Mrs. Clarinda Roberts, Rose Hill House, Ipswich, showed a good Cattleya labiata and C. elongata, grown on Clozone Orchid-baskets.

Messrs. James Veitch and Sons, Royal Exotic Nursery, Chelsea, staged a splendid group, to which a Silver Flora Medal was given. It contained some good forms of Cattleya labiata and C. Dowiana, the handsome C. × Wendlandiana (Bowringiana × Warscewiczii) C. × epicasta (Bowringiana × Dowiana), and other Cattleyas, the brilliant Lælio-cattleya × callisto-glossa ignescens, Odontoglossum Pescatorei with a very large branched panicle, the graceful Cœlogyne Veitchiana, a good pan of Stenoglottis longifolia, Brassia Lawrenceana longissima, a good example of Miltonia vexillaria Leopoldi, Gomeza recurva, Catasetum fimbriatum, the handsome Oncidium Forbesii, Masdevallia × Asmodia (Reichenbachiana × Chelsoni), M. × Imogen (Schlimii × Veitchiana), good pans of Cypripedium Charles-worthii, C. purpuratum, C. insigne Sanderæ, C. × Arthurianum pulchellum, C. × Milo, C. × œnanthum superbum, C. × Harrisianum superbum, and others.

Messrs. Stanley-Mobbs and Ashton, Southgate, received a Silver Banksian Medal for a fine group, including Lælia autumnalis, some fine L. pumila, Cattleya Loddigesii, C. Warscewiczii, some good C. labiata, of which a white form with purplish blotch on the lip, called C. l. Lewisii, was very effective, Oncidium trulliferum, O. cornigerum, the handsome O. tigrinum, &c.

M. Ch. Maron, Brunoy, Seine et Marne, France, showed Cattleya × Maroni (velutina ♀ × Dowiana aurea ♂), a very handsome hybrid, to which a First-class Certificate was given. It bore an inflorescence of seven flowers, the sepals and petals being of a peculiar browny yellow, and the lip, which most resembles that of the seed parent, having the front lobe veined and tinged with bright rosy crimson.

Mr. James Douglas, Edenside, Great Bookham, showed Cypripedium × macropterum, and the handsome Lælia × Briseis (harpophylla × purpurata), having a tall spike of cream yellow flowers tinged with rose on the lip.

Messrs. F. Sander and Co., St. Albans, exhibited a good plant of Cymbidium Traceyanum, bearing two spikes, good pans of Habenaria carnea and militaris, the rare Masdevallia melanoxantha, some good Cattleya lábiata and Loddigesii, Phalænopsis Esmeralda, Lælio-cattleya × elegans, Cypripedium × John Carder, &c. The group was prettily arranged with plants of the Acalyptha hispida.

Mr. Walter Goodliffe, Cambridge Nurseries, Worthing, showed plants of Cypripedium × Io grande × Boxalii.

ORCHID PORTRAITS.

Lælio-cattleya × Dominiana langleyensis.—*Journ. of Hort.*, Oct. 27, p. 317, fig. 56.

Lælio-cattleya × Henry Greenwood.—*Gard. Mag.*, Oct. 22, pp. 686, 687, with fig.

Odontoglossum crispum Miss Anna Guders.—*Gard. Mag.*, Sept. 17, p. 605, with fig.

Paphiopedium Rothschildianum, Pfitz.—*Rev. Hort. Belge*, Oct., p. 221, with plate.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

W. M. A., Weston-super-mare.—Apparently Sobralia macrantha Kienastiana.

J. W.—Cattleya labiata is very variable, and some of the more distinct varieties have been named, but many of the variations, in the depth of tint of the purple segments, or the amount of yellow on the disc, are so slight, and pass into each other by such insensible gradations, that it is almost impossible to separate them in any useful way. We should only name those which are specially distinct or particularly meritorious.

E. O. O.—The letter "f" after "Rchb." is an abreviation of "filius" (the son) and is added to distinguish the younger Reichenbach from his father, the author of *Flora Germanica*. It is used in a few other necessary cases in the same sense. The signs ♂ (male), ♀ (female), are used to indicate which was the pollen and which the seed parent of any hybrid. They are often omitted, in which case the seed parent should always be written first, thus Cattleya Bowringiana × C. Dowiana, indicates C. Bowringiana crossed with the pollen of C. Dowiana. It is sometimes used indiscriminately, which leads to confusion, but sometimes the necessary details are not known.

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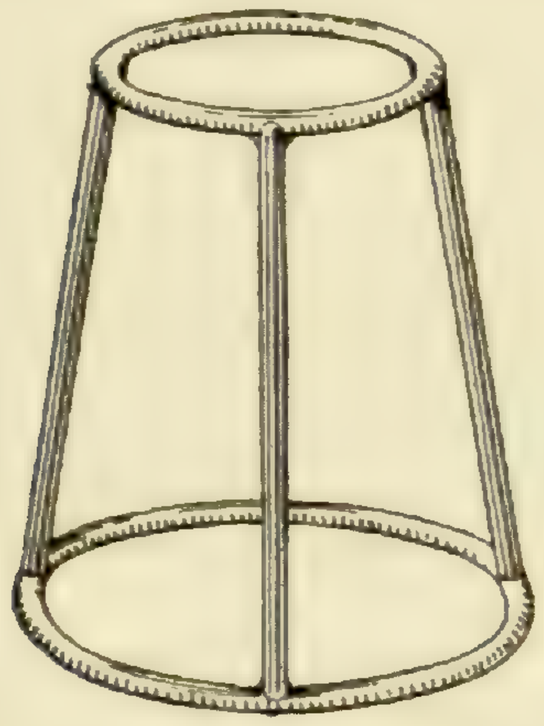

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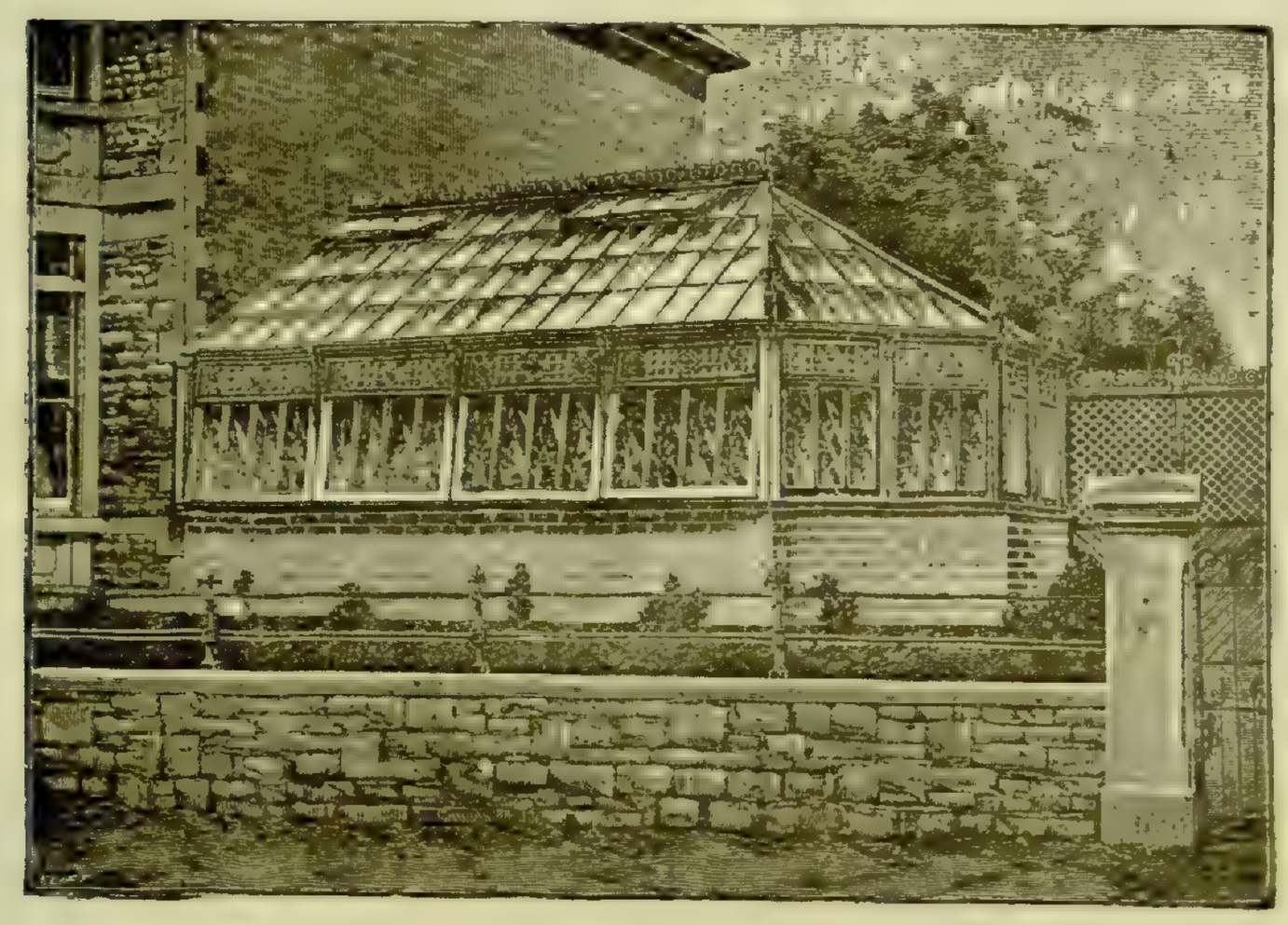

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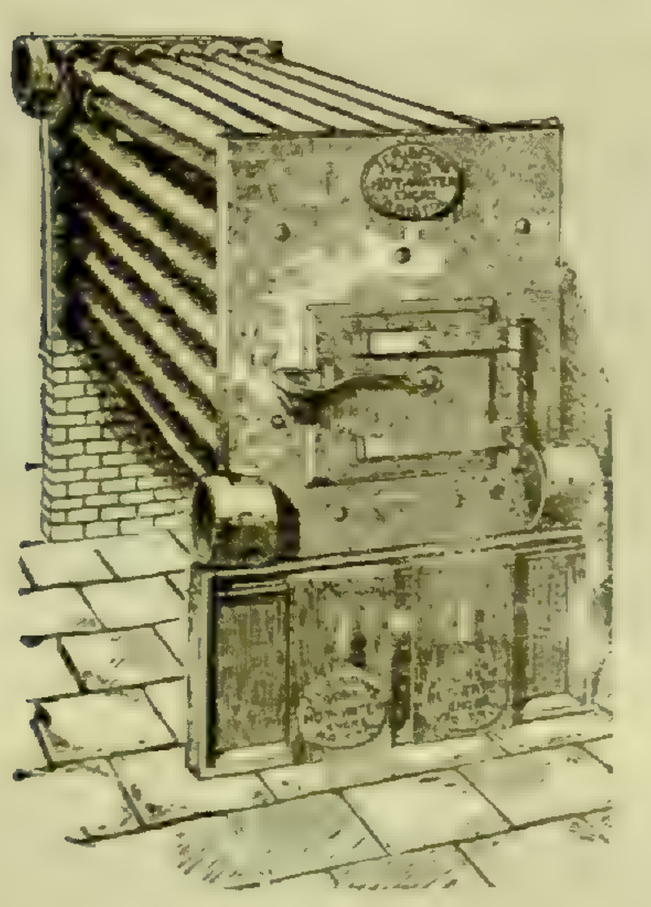

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THE ORCHID REVIEW:

An Illustrated Monthly Journal,

DEVOTED TO ORCHIDOLOGY.

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THE ORCHID REVIEW.

VOL. VI.] *DECEMBER*, 1898. [No. 72.

NOTES.

THE last meeting of the year of the Royal Horticultural Society will be held at the Drill Hall, James' Street, Westminster, on December 13th, when the Orchid Committee will meet at the usual hour, 12 o'clock, noon.

The Manchester and North of England Orchid Society will also hold one meeting, at the Coal Exchange, Manchester, on December 15th. The Orchid Committee meets at noon, and the exhibits are open to inspection from 1 until 4 o'clock.

A splendid inflorescence of Odontoglossum luteopurpureum hystrix is sent from the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, by Mr. White. The main stem bears seventeen flowers, and there are six others on a side branch, making twenty-three in all, and those near the base are very large. It is an excellent example of good culture, for only a strong plant could produce such an inflorescence. It is pointed out that the flowers smell strongly of Vanilla, but there seems to be also a dash of heliotrope in the perfume.

A light form of Odontoglossum × Coradinei, with primrose yellow ground and very few brown markings, is also sent. Light-coloured forms of this hybrid seem to be rare, but one with white ground is reported to have appeared with Mr. Bull, in 1883, namely, the variety hemileucum (Rchb. f. in *Gard. Chron.*, 1883, xix., p. 683).

A flower of the beautiful Cattleya Bowringiana Lady Wigan, which received an Award of Merit from the Royal Horticultural Society the other

day, is sent from the collection of Sir Frederick Wigan by Mr. Young. The flowers are large, with petals over 1¼ inches broad, and the colour lilac, with a zone of dark purple round the throat of the lip.

Two beautiful light forms of Dendrobium Phalænopsis with very large flowers are sent from the collection of General Gillespie, Brynderwen, Usk, by Mr. Jennings. One may be described as lilac-rose, and the other as light rose purple. In each case the lip is slightly darker. It is remarkable how wide a range of colour variation is seen in this species. A good flower of Cattleya Dowiana aurea from a plant imported last spring is also sent.

The difficulty of raising hybrids between Paphiopedium niveum and P. barbatum has more than once been alluded to in these pages, but we learn that a seedling is now in bud in the collection of F. M. Burton, Esq., Highfield, Gainsborough. Whether it shows the true hybrid character or not we cannot say, but, if so, it will be a form of P. × Tautzianum.

A very pretty form of Odontoglossum × Andersonianum has appeared in the collection of H. H. Noble, Esq., of Liverpool, among some imported O. crispum from Messrs. Cowan. The flowers are clear sulphur-white with a few deep red-brown spots, chiefly on the sepals.

Another seedling from Cattleya Loddigesii (violacea) crossed with Lælia purpurata has flowered in the collection of T. W. Thornton, Esq., Brockhall, Weedon, of which we have received a two-flowered inflorescence. It is a form of Lælio-cattleya × Sallieri, of which L.-c. × weedoniensis, inadvertently described at page 5, is also a variety. It is from the same cross as the one just mentioned, but has lilac-coloured sepals and petals, and the front lobe of the lip veined with purple.

A fine bloom of Paphiopedium × Niobe is sent from the collection of Reginald Young, Esq., of Sefton Park, Liverpool, the dorsal sepal being nearly 2½ inches broad. The combination of P. Spicerianum with P. Fairrieanum produces a very charming effect, and Mr. Young remarks that it is one of his favourites.

A flower of the very richly-coloured Paphiopedium × Clotho (P. × politum ♀ × P. Boxallii atratum ♂) is also sent. It most resembles the pollen parent in shape and the very dark colour of the dorsal sepal, but the combined influence of P. barbatum and P. venustum in the seed parent has imparted to the petals and lip a rich, bronzy purple colour which renders it one of the most brilliantly-coloured hybrids of this affinity. It first flowered in 1895.

Respecting the figure of Odontoglossum crispum Prince of Wales

(page 337), Mr. Young writes :—" I greatly appreciate your illustration, and think it one of the best, if not the very best, reproduction of a photograph you have yet given us, while being of the exact size greatly enhances its utility. Personally, I prefer these pictures of single flowers to those of whole plants, although the latter also deserve a place."

ORCHIDS IN SEASON.

We have now reached the month of the shortest, dullest days, when our favourites are mostly resting previous to another season of activity. Many interesting winter-flowering species, however, are to be seen in bloom, and they seem all the brighter at such a season.

Among Cool house species, several are making a good display, particularly Cypripedium insigne and its numerous varieties, which are particularly useful, as the flowers always remain fresh for a considerable length of time. Many Masdevallias will shortly throw up their flowers. Odontoglossums are gradually coming in season again; O. bictoniense, × Andersonianum, Cervantesii, constrictum, crispum, Edwardii, Hallii, pulchellum, Rossii, and triumphans are all pushing their spikes, and will flower in succession until the end of the spring. The pretty Sophronitis cernua, grandiflora, and violacea are always welcome, as they flower throughout the winter months.

In the Intermediate house, numerous plants are promising; the handsome Cattleya labiata is about over, but the curious little C. luteola, which often flowers in the winter, is in bloom. C. Percivaliana, Schröderæ, and Trianæ are the next varieties to bloom. Very attractive is Cymbidium giganteum with its rich-coloured flowers. Epidendrum Lindleyanum and elegans, formerly referred to Barkeria, are also out. Among Lælias now in season are those of the anceps section, which will soon form a most charming sight. They are extremely sensitive to fog, and if they are kept in a drier atmosphere the flowers will last much longer. L. Eyermaniana, peduncularis, and crispilabia are also in bloom. Lycaste Skinneri and lanipes are also blooming, and must be kept rather dry. A few Maxillarias are pushing, viz., M. crocea, arachnites, and venusta. Oncidiums are always attractive, O. bracteatum, longipes, sarcodes, and varicosum being now covered with flowers. O. macrathum is also pushing up its enormous spikes. Two little gems are Platyclinis cucumerina and uncata, and, before leaving, we must not forget to mention Zygopetalum Gautieri and Mackayi.

The Warm department is now gaily decorated, Angræcum eburneum and the remarkable A. sesquipedale, with their white, star-like blossoms,

being very effective. The deciduous Calanthes are also very brilliant. Cœlogyne Rhodeana is a curious little winter-bloomer. Many Cypripediums are now in bloom; among them C. × Harrisianum, Haynaldianum, × Leeanum and varieties, × Pitcherianum, Victoria-Mariæ, × Fitchianum, × Leeanum, and other Spicerianum hybrids.

Dendrobiums are again coming in season, D. aqueum, × Cassiope, × euosmum and cymbidioides, being already in bloom. Several others are showing, as D. dicuphum, Findlayanum, nobile and its varieties, × splendissimum, and Wardianum. A few Epidendrums are opening, amongst which E. ciliare and its varieties should be mentioned. Eulophia virens is now opening its curious flowers. Miltonia Roezlii, with its scented blossoms, is always beautiful. Phaius mishmiensis has pretty, rose-pink flowers.

Phalænopsis are beginning again to show their flower spikes, as P. amabilis, denticulata and Schilleriana. Several Selenipedes are also to be seen, as × calurum, × cardinale, longifolia, Roezlii and × Sedeni; and, before finishing, let us mention the handsome Saccolabium giganteum as showing its spikes.

We have thus seen, month after month, the floral evolution of our favourites, and our monthly look round has helped us to anticipate, to some extent, the floral succession of the year.

A. Griessen.

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A good durable label, which is at the same time cheap and unbreakable, and preserves the legibility of the writing, is a desideratum to growers of Orchids and other plants, and these properties are combined in the Stanley Ivorine Labels, of which we have received specimens from Messrs. John Wilday and Sons, of Birmingham. The material of which they are made is admirably suited to the purpose, being light and strong and practically indestructible, yet at the same time as white and smooth as paper, so that they can be written upon with the greatest facility, both with ink and pencil, as we have proved on trial. A special waterproof ink is also made which, it is claimed, will stand exposure to all weathers, having stood the severest tests. But with an ordinary lead pencil they are a vast improvement on wooden labels. They are made in various shapes, suitable for wiring to the baskets or sticking in the compost, as may be seen on reference to the figures in a notice in our advertisement columns.

EULOPHIELLA PEETERSIANA.

(*See* FRONTISPIECE.)

THIS beautiful plant is unquestionably the Orchid of the year, and we have great pleasure in giving its portrait as a frontispiece to the present volume. The photograph, for which we are indebted to the kindness of Sir Trevor Lawrence, is by the London Stereoscopic Company, and was taken from a fine painting of the plant by the well-known botanical artist, Mr. J. L. Macfarlane. In this we have made a departure from our usual practice, but the almost microscopic accuracy of Mr. Macfarlane's work is a sufficient guarantee of the correctness of the details. The photograph is about one-fifth natural size, the flowers being over three inches broad, and, considering the large amount of reduction necessary, the result is remarkably good. The history of the species has been given at pages 67 and 101 of our last volume and p. 105 of the present one, and need not be repeated, though we may add that it was awarded a First-class Certificate by the Royal Horticultural Society on April 12th last, and that figures have now appeared in the *Botanical Magazine* (tt. 7612, 7613). It is a very handsome Orchid, the sepals and petals being brilliant purple in colour, with a darker blotch at the apex, and the lip white with a broad purple border, and some orange streaks in the throat. It adds one more to the list of achievements obtained at Burford, and both Sir Trevor Lawrence and his able grower, Mr. White, must be congratulated on their success in first flowering it.

CATTLEYA ALBINOS.

(*Continued from page 327.*)

CATTLEYA ELDORADO VIRGINALIS (*Will. Orch. Gr. Man.*, ed. 7, p. 162) is a beautiful albino, which appeared with M. J. Linden, in 1876, and was originally described as a distinct species (C. virginalis, Linden and André. *Ill. Hort.*, xxiii., p. 161, t. 257). It is said to have first flowered in 1869. Afterwards another white Cattleya, which had been sent home by Wallis, was described under the name of C. Wallisii (Linden ex Rchb. f. in *Gard. Chron.*, 1882, xvii., p. 557), but has proved identical with the preceding.

CATTLEYA QUADRICOLOR ALBA.—A very fine albino of C. quadricolor (syn. chocoensis) flowered in the collection of A. Warburton, Esq., Vine House, Haslingden, in January, 1897. A painting in the collection of Mr. J. L. Macfarlane, shows it to be a very fine form with particularly broad petals, and the colour snow white with a little yellow in the throat. Under the name of C. chocoensis alba it is also mentioned as being in the collection of C. G. Roebling, Esq., Trenton, New Jersey, U.S.A. (*Gard. Chron.*, 1898, xxiv., p. 330). Other specimens may be in existence.

CATTLEYA WARNERI ALBA.—This we have not seen, but it is mentioned in a note on white Cattleyas in the collection of C. G. Roebling, Esq., Trenton, New Jersey, U.S.A. (*Gard. Chron.*, 1898, xxiv., p. 330), as being represented in that collection.

(*To be continued.*)

ORCHIDS AT PARKFIELD HALLOW, WORCESTER.

A VISIT to this fine and well-known collection of Orchids is always interesting. The plants are well grown and, in addition to good culture, some rare and beautiful species or hybrid is always to be seen in bloom. On the occasion of my recent visit, a most lovely specimen of Lælio-cattleya × exoniensis met my view. One spike bearing five large and handsome flowers was still left on it, but it had had six spikes, carrying, between them, twenty-five such blooms. Such large, healthy specimen plants of this beautiful hybrid are rarely to be seen. I noted, also, grand plants, in robust health, of L.-c. × Pallas, L.-c. × Nysa superba, L.-c. × Statteriana, L.-c. × Canhamiana, L.-c. × Hippolyta, Cattleya × Hardyana and C. × H. Massaiana, Lælia × Latona, L. × flammea, and a many others. Among the species there are likewise many grand specimen plants in the pink of condition. Imagine a Cattleya Skinneri large enough to carry 145 flowers; a C. Bowringiana lilacina, with 21 spikes of bloom; a Maxillaria grandiflora, with 70 or 80 flowers, and it will give some idea of their enormous size. Miltonia vexillaria and M. Roezlii are also grown to a large size, whilst, a little further on, fine specimens of Cymbidium Lowianum are to be seen, also one magnificent plant of C. Traceyanum having five strong leads.

This collection is also very rich in Lælia anceps varieties, enormous specimens of L. a. Schrœderiana, L. a. Sanderiana, and L. a. Percivaliana, were noted producing many flower spikes. Also a most lovely variety, resembling very closely, if not completely, the rare L. a. Schrœderæ, was in bloom. Then come the Vanda teres and V. Hookeriana, and of these a special word must be said, though no words of mine can convey a true impression of what these plants are really like. They occupy the entire end of a large, high, span-roofed house, and present a truly forest-like appearance. They are grown in pots, perhaps about fifty plants in a 12-inch pot, supported by teak-wood rafts fixed in the centre. From the stage on which they stand they grow simply like weeds, towering upwards 10 or 12 feet high, until the roof glass is reached, when of course it is necessary to lower them by cutting them down and re-planting. Even the tallest of these plants are still furnished with green, healthy foliage right down to the bottom of their stems. It is a grand sight, especially when they are in

bloom, and flowers in larger or smaller quantity are nearly always to be seen on them. One variety is almost white. V. Hookeriana grows equally as vigorous as V. teres, indeed, one has to examine them closely to distinguish one from the other. I may say that the position occupied is one getting the full rays of the sun, and that copious syringing is indulged in.

The collection is indeed a great credit to Mr. Earlston, the head gardener, who is equally successful in other departments of this fine garden, which is fortunately maintained at exactly the same high standard of excellence as during the lifetime of the deeply-lamented late owner, C. W. Seely Lea, Esq.

H. A. B.

THE HYBRIDIST.

CATTLEYA × THORNTONI.

THIS is a very handsome hybrid, raised in the collection of T. W. Thornton, Esq., Brockhall, Weedon, from Cattleya Lueddemanniana (or speciosissima as it is often called), crossed with the pollen of C. amethystoglossa, which are among the handsomest of their respective sections. The cross was made in February, 1887, and the seed was sown exactly a year later, so that the plant is now ten years old. It bears a considerable general resemblance to C. × Miranda (derived from C. Trianæ ♀ × amethystoglossa ♂ by Messrs. Veitch, and from the reverse cross by Mr. Thornton), but has rather broader petals than one of that previously sent by Mr. Thornton, and will probably develop into a larger flower. The sepals and petals are of a beautiful shade of rose-pink, and the front lobe of the lip and tips of the side lobes brilliant purple-crimson. The side lobes of the lip are light blush, and the front lobe beautifully undulate and distinctly veined in front on account of the nerves being darker than the ground colour. Both shape and colour are excellent, and one can readily imagine what it will develop into when it becomes stronger.

PAPHIOPEDIUM × CHARLESIANUM.

This hybrid was raised from P. × Sallieri aureum × P. × Leeanum superbum, and was exhibited at a meeting of the Orchidéenne in March, 1894. We have now received a flower and leaf of the reverse cross, raised in the collection of Reginald Young, Esq., of Sefton Park, Liverpool, by Mr. Poyntz. The exact parentage is P. × Leeanum burfordiense ♀ × P. × Sallieri Hyeanum ♂, the cross being made in March, 1892. Two small seedlings were found in December, 1893, one of which has now flowered. How far it differs from the original we cannot say, but at all events it will be a variety of the same. An analysis of the parentage shows that three species are represented, as follows, insigne $\frac{1}{2}$, villosum $\frac{1}{4}$, and Spiceriam $\frac{1}{4}$, and the flower agrees fairly well with this, the

influence of P. insigne being the most marked, but that of P. Spicerianum is chiefly seen in the details of the dorsal sepal. This organ is green in the lower half, and white above and along the margin, with several rows of small spots, which are purple where they extend into the white area. The rest of the flower is most like P. insigne. It is curious to note that if a cross were made between P. insigne and P. × Lathamianum the same three species would be represented in exactly the same proportions.

Paphiopedium × Dædalus.

This pretty and very interesting hybrid has been sent from the collection of Reginald Young, Esq., Sefton Park, Liverpool. Its history is thus given by Mr. Young:—"A bloom of P. insigne punctato-violaceum was crossed in December, 1890, by my gardener (Mr. Thomas J. Poyntz), with the pollen of P. × vexillarium superbum. The seed was sown in October, 1891, and in the following October two seedlings appeared. For two years these seedlings made little or no progress, remaining apparently dormant, then they seemed to make a satisfactory start, and are now (October, 1898), sturdy plants, one flowering for the first time." The flower sent bears some resemblance to P. × œnanthum, but it is rather smaller and the petals less uniformly coloured. The influence of P. barbatum is not as marked as in the forms of P. × Ashburtonæ, which might be expected, but curiously enough, that of P. Fairrieanum seems to have been almost or quite eliminated. The second plant may differ in this respect, but is not flowering this year, so that further remarks may be deferred.

One of the curiosities of hybridising is that practically the same result may be obtained by different ways (see *O. R.* iv., p. 361), and Mr. Young again calls attention to this in a later note. He writes:—"As an experiment I have now crossed P. × Ashburtonæ Barteti with the pollen of P. × Arthurianum pulchellum, and *vice versa*, as the result (shown below) should be somewhat similar to P. × Dædalus, containing the same proportions of the same species in each case:—

P. × Dædalus.	insigne punctato-violaceum		½
	× vexillarium superbum	barbatum	¼
		Fairrieanum	¼
New cross.	× Ashburtonæ Barteti	barbatum	¼
		insigne Chantini	½
	× Arthurianum pulchellum	insigne Chantini	½
		Fairrieanum	¼."

We hope these crosses will succeed, for it will be interesting to compare the results. It rather opens a new problem in nomenclature.

PHRAGMIPEDIUM × SCHRŒDERÆ

Our present illustration represents the beautiful Phragmipedium × Schrœderæ, which was raised by Mr. Seden in the establishment of Messrs. James Veitch and Sons, from P. caudatum crossed with the pollen of P. × Sedeni, and flowered for the first time in 1883, when it was dedicated to Baroness Schröder, under the name of Cypripedium × Schrœderæ. The plant is very robust and floriferous, and the flowers, whose general shape is well shown in our figure, are large and very highly coloured; being of a rich rose-purple, with the side lobes of the lip very prettily spotted on a

Fig. 17. Phragmipedium × Schrœderæ.

lighter ground. The flowers are generally produced during the winter, which greatly enhances their value. It is probably the finest hybrid in the genus, and received a First-class Certificate from the Royal Horticultural Society in December, 1883, when exhibited by Baron Schröder. The flowers of this genus have a curious habit of falling off while still fresh, but careful selection may eliminate this objectionable character to some extent in future. Hybrids in this genus seem to have fallen off rather of late, but we believe there is room for further experiments, and, as they are so easily raised, they would probably repay a little more attention.

CYPRIPEDIUM NIVEUM AS A PARENT.

At the present time the hybrids in which Cypripedium niveum forms a part, are fairly numerous. Unfortunately there is considerable doubt, in several instances, as to the identity of the other parent, but taking them as recorded, and alphabetically, as far as possible, as to the name of the joint-parent, we come first to the hybrids in which C. Argus and niveum are combined.

These consist of C. × Gravesiæ and var. superbum (*O. R.*, ii., pp. 81, 164), C. × Ruth Ayling (*O. R.*, iii., p. 127) and C. × Mdlle. Nancy Descombes, of Continental origin (*Hansen's Orch. Hyb.*, p. 149). The first of these is figured in the *Orchid Review* (ii., p. 81), and shows the influence of C. niveum plainly enough, even if the other parent is not so easily traced.

The combination of C. barbatum and niveum is to me particularly interesting, as I have been trying for some years to raise and flower seedlings of this cross with the influence of C. niveum fully indicated in the bloom. It may be well to state here that C. niveum first flowered in this country in the spring of 1869 (*Veitch Man. Orch.*, iv., p. 40), in which year the first hybrid Cypripedium, C. × Harrisianum (villosum ♀ × barbatum ♂) appeared (see *O. R.*, i., p. 6). The first hybrid Cypripedium with C. niveum as one of the parents, was C. × microchilum, which flowered in 1882 (*O. R.* i., pp. 99, 100). C. × Tautzianum (niveum ♀ barbatum ♂) flowered in 1886. Putting these facts together, it may, I think, be safely inferred that hybridisers have been attempting to raise plants of C. × Tautzianum for many years past, both in trade establishments and amateur collections. Have they been successful? or is there some want of potentiality in the pollen of C. niveum, or in the constitution of the plant? I wonder how many people have raised and flowered C. × Tautzianum true. There are the recorded instances of this cross being raised by Messrs. Veitch (*Veitch Man. Orch.*, iv., p. 98), of C. × Madame Van Houtte, probably the same cross, of which only one plant was raised (*Veitch, l. c.*, p. 90), and of C. × Tautzianum lepidum (niveum ♀ barbatum Warneri ♂) (*Will. Orch. Gr. Man.*, ed. 7, p. 306). It seems somewhat curious that with C. niveum as the seed parent, the lip or pouch of C. × Tautzianum should be dark purple, but, after all, it is only a case of a child taking after its father.

Referring to my own hybridising records. I find that during the years 1891 to 1896, inclusive, I crossed C. barbatum with the pollen of C. niveum on twelve occasions, eight of these proving failures, inasmuch as no seedlings were produced. The first seedlings from the above cross appeared in May, 1892, already alluded to in these pages (*O. R.*, iii., p. 201; iv., p. 309;

v., p. 364). I would only now add that I am still convinced that one of these seedlings will prove true, if it will only flower, the style of growth and the substance of the foliage showing the influence of C. niveum in a marked degree. It seems, however, a miffy grower. It may also be worthy of notice that the young growth on one of the plants that has flowered as barbatum has now come with a white margin to the leaves. One seedling of C. barbatum grandiflorum ♀ × niveum giganteum ♂ appeared on the 8th November, 1896, but it has since died. On the 7th October, 1896, a nice little batch of C. × Tautzianum was discovered from seed sown in December, 1895, and these seedlings had the peculiar characteristic of white markings in the early stage. Later still, namely, on the 1st November, 1897, some 5 or 6 seedlings made their appearance from a similar cross; seed sown 3rd December, 1896. In these two last instances, both pollen masses of C. niveum were used. Of the reverse cross, I find that I only experimented twice during the same period, and in both cases I was unsuccessful.

Continuing in the order I have adopted, I come next to those niveum hybrids of which C. bellatulum is reputedly the other parent, and as they are all scarcely, if at all, distinguishable from C. × Godefroyæ, I content myself with merely giving their names. They are C. × Psyche (*O. R.*, ii., p. 262), C. × Mrs. Herbert Druce (*G. C.*, 1897, xxi., p. 411), and C. × Godefroyæ (*Gard. Mag.*, 1898, i., p. 145). The parentage of this last-mentioned hybrid is also given as bellatulum ♀ × concolor ♂ (*O. R.*, v., p. 75).

C. × calloso-niveum (*O. R.*, iii., p. 359) is said to be a very pretty hybrid resembling C. × Tautzianum and C. × Aphrodite.

The combination of C. ciliolare and C. niveum has produced some lovely hybrids which have received recognition at the hands of the R. H. S. Orchid Committee. C. Aylingii (*O. R.* i., p. 294) received a First Class Certificate in 1890, and C. × Muriel Hollington, of this parentage (*O. R.*, v., p. 37), received an Award of Merit in the same year. C. × Winifred Hollington, from the reverse cross, obtained a First Class Certificate in 1894 (*O. R.*, ii., pp. 153, 157). I effected this cross on the 7th May, 1894, and as one seedling only was the result I hope to see it flower true in the course of time. It was discovered on the 31st July, 1896, some 18 months after the seed was sown. C. × niveo-ciliolare (*Garden*, June 9, 1894; *G. C.*, February 16, 1895) is synonymous with C. × Aylingii.

There is some uncertainty as to the joint-parent with C. niveum of C. × F. S. Roberts, both C. ciliolare and C. Curtisii having been suggested (*O. R.*, vi., pp. 63, 75). Be this as it may, it is a beautiful hybrid, and received an Award of Merit from the Orchid Committee in London and a First Class Certificate in Manchester.

The recorded crosses between C. niveum and C. Curtisii are, C. × Cowleyanum (*G. C.*, 1892, xi., p. 72), C. × non plus ultra (as per Protheroe and Morris's Catalogue, 24th September, 1895), and C. × Cowleyanum var. Anna Louise, the last-named obtaining an Award of Merit in 1896 (*O. R.*, iv., p. 190).

With regard to this cross, I have a personal experience to record which may be interesting. In June, 1891, I used a pollen (one side only) of niveum on a flower of C. Curtisii; the seed was sown in January, 1892, and in September of the same year, two seedlings made their appearance. As time progressed, one seedling grew much more rapidly than the other, the foliage having much the same colour and markings as that of C. Curtisii. Early in May last, it flowered, and although the whole flower is paler throughout than a bloom of its actual seed parent, with which I have been able to compare it, it is not sufficiently distinct to warrant me in showing it as the hybrid it undoubtedly is. The curious thing is that the other seedling, which seems almost at a standstill, possibly for the very reason that C. niveum has asserted its influence much more strongly, has leaves of a darker colour and of more substance, and differs very greatly from its fellow.

C. × Vanhoutteanum was probably derived from C. niveum and C. × Dauthieri (*O. R.*, i., p. 259).

The cross between C. Dayanum ♀ and C. niveum ♂ has recently been recorded as Paphiopedium × Lily Measures (*O. R*, vi., p. 293).

The crossing of C. niveum with the pollen of C. Druryi, resulted in the production of the very pretty C. × microchilum, a hybrid which, flowering first in 1882, only received an Award as recently as 1893.

In the Journal of the R.H.S., xii., p. 127, it is recorded that on the 26th August, 1890, Major Marwood, Whitby, Yorkshire (gr. Mr. Horner), submitted C. Marwoodi × (C. niveum × C. Harrisianum). The plant was not strong, and the Committee desired to see it again.

Among the plants representing the cross of C. niveum with C. insigne, × Muriel Hollington used to be included, but it must now be transferred to the ciliolari-niveum crosses (*O. R.*, v., p. 37). C × Venus, however, is a true representative of this cross, being derived from C. niveum ♀ and C. insigne Sanderæ ♂ (*G. C.*, 1895, i., p. 200). Then we have Paphiopedium × niveo-insigne (*O. R.*, v., p. 37). Mrs. E. V. Low is propably also a true representative of this cross, and it received an Award of Merit both in London and in Manchester (*O. R.*, v., pp. 223, 253.)

I now come to a most interesting group,—the hybrids for which C. Lawrenceanum and C. niveum are responsible. They are C. × Aphrodite, × Antigone, × Telemachus, and × Mrs. Harry Veitch. C. × Aphrodite first appeared, but it was only in 1893 that it received a First-class Certifi-

cate from the R.H.S. C. × Antigone alone seems to have had C. Lawrenceanum for seed parent, and its worth may be estimated by the fact that it received a First-class Certificate at the hands of the R.H.S. Orchid Committee both in 1890 and 1891. C. × Telemachus received an Award of Merit in 1892. Bohnhof appears to be answerable for the name C. × Mrs. Harry Veitch (see *Hansen's Orch. Hyb.*, p. 286).

My personal experience of this cross is as follows:—During the years 1891 to 1896 inclusive, I have crossed C. Lawrenceanum with the pollen of C. niveum on nine occasions, seven of these operations proving ineffectual, the remaining two producing two seedlings each. The reverse cross, I have attempted only once, when I was rewarded also with two seedlings. Of these six seedlings only one appears to have made good headway, and this, having been discovered in May, 1895, looks vigorous and well. The foliage is fairly intermediate.

C. × Jeanette recorded as a hybrid between C. × Leeanum ♀ and C. niveum ♂ (*G. C.*, 1897, xxi. p. 278), and C. × niveo-Lowii is also recorded, Feb. 16th, 1895.

W. H. Gower, in *The Garden* (1892, xli. p. 48) describes Cypripedium × La France, a hybrid between C. niveum and C. × nitens, as "the most charming hybrid of the niveum group I have yet seen."

The crossing of C. niveum with C. philippinense, or its variety Roebeleni has produced C. × Vipani, × C. V. roseum, and possibly C. × V. var. Corningii, the former obtaining a First-class Certificate in 1892. About the last-named there is some doubt, although the picture given in the *Orchid Review* (v., p. 241) would lead one to believe that this parentage is correct.

In the Journal of the Royal Horticultural Society, vol. xvi., p. 103, appears the following paragraph. "C. L. N. Ingram, Esq., Elstead House, Godalming (gr. Mr. T. W. Bond), showed Cypripedium × striatum, stated to be C. niveum ♀ × C. lavigatum ♂, but bearing no trace of the latter species. It resembled C. × Tautzianum." Is it a form of the latter or of C. × Vipanii?

REGINALD YOUNG.

(To be continued.)

DIES ORCHIDIANÆ.

LAST February (p. 37) I had occasion to discuss what I suppose may be termed "the great Cypripedium question," and now I observe an illustrated article from the pen of the Comte de Kerchove in the November number of the *Revue de L'Horticulture Belge* (p. 246), in which the views of the different botanists who have written upon the question are summarised.

Count Kerchove accepts the latest views that the tribe Cypripedieæ contains four distinct genera, and I am particularly glad to note that he adopts the old familiar spelling of Cypripedium and Selenipedium, instead of the new-fangled Cypripedilum and Selenipedilum, and, of course, he makes the new genera fall into line with the others in respect to this. It is unfortunate that the necessary alterations in the nomenclature of the group should be complicated by a question of this kind.

As to this useless tampering with the spelling of familiar names, it is interesting to recall some remarks made long ago by Reichenbach. In discussing the question whether the spelling of Lindley's Odontoglossum cirrhosum should not be amended to cirrosum, he observed :—" If we indulge in changes, we may fall into the hands of an amusing school. I'll give an illustration. A young Berlin writer changed Linnæus' Cypripedium into Cypripedilum. Another member of the same school will, no doubt, write better—Cypridipedilum. The third will propose, against our rules, Kypridipedilum ; and the fourth will object that Kypridipedilon is even better. And let me add that it is a bad plan to write Cypripedilum Calceolus, L., when Linnæus wrote Cypripedium Calceolus. My opinion is that we should keep names as they are given " (*Gard. Chron.*, 1876, vi., p. 452). These remarks I alluded to from memory when discussing the question at page 37, and they have proved almost prophetic.

The rule of keeping names as they were originally given is a good one for general purposes, if not carried too far, as it easily may be. For example, it should not prevent the correction of an obvious blunder, however it may have originated, and it should not prevent uniformity in spelling the same word or part of a word. Some of those who write Cypripedium, Selenipedium, and Phragmipedium, because that is the original spelling, also write Paphiopedilum, and for the same reason, but it is repugnant to common sense to have two methods of spelling the same termination. Paphiopedilum of Pfitzer, it has been shown, is a mixture of two distinct genera with a couple of Catasetums and a Cyrtopodium thrown in. Besides which it was primarily said to be based on the plants now referred to Phragmipedium (see note at p. 38), though on the same page some of the Asiatic species were also referred to it. Some day I suppose some " purist " will prove to his own satisfaction that it was the latter group which should have been re-named, and promptly act on the discovery. It will be as well to keep an eye on this question in case of further developments.

I was particularly glad to see the excellent figure of Odontoglossum crispum Prince of Wales given at page 377, which amply justifies my

remarks at page 227. It is a striking portrait, and forms a fitting climax to the discussion on the question, and, as pointed out, will form a very useful standard of comparison for the future.

The appearance of the beautiful Cattleya × Maroni affords another illustration of the rapid progress being made in hybridising Orchids, and the award of a First-class Certificate from the R. H. S. was fully deserved. In some respects it affords a little surprise, for it seems to be a strong grower, which can hardly be said of either of its parents. The flowers, too, are better than one would have expected, probably because the parents are sufficiently alike in colour not to neutralise and spoil each other, as sometimes happens. Those who are fortunate enough to have these two plants flowering together should take the hint, for Cattleyas are not very rapidly propagated by division. M. Maron must be congratulated on this fine acquisition.

ARGUS.

CALENDER OF OPERATIONS FOR DECEMBER.

By H. A. BURBERRY, King's Heath, Birmingham.

DURING this dull, dark month, we must look well to the temperatures and atmospheric conditions of the various departments, seeing that the thermometer registers somewhere about the following figures:—

COOL HOUSE:—Day, 55°; night, 50°; morning, 45°.

INTERMEDIATE HOUSE:—Day, 60°; night, 55°; morning, 50°.

EAST INDIAN HOUSE:—Day, 65°; night, 60°; morning, 55°.

A few degrees rise above the foregoing figures may of course be allowed when the sun makes its appearance, or should the weather be exceptionally mild.

Respecting the atmospheric conditions, the weather must again be the simple guide. Very little water indeed need be distributed for the purpose of producing moisture when the outside conditions are mild, but should a large amount of fire heat be necessary for keeping the temperatures up to the desired figures, of course, more damping down will likewise be necessary.

Very little new growth will take place during this month, as most Orchids are now enjoying a rest, and rightly so, for in all cases it is more or less necessary. Even those species which may be in the act of forming new growth will move very slowly, in fact, seem to be almost stationary, and only harm will result if any attempt is made to try to force them into active growth at this dull season. They would soon become weak and spindly, a condition of things which all good growers seek to avoid.

Water the plants sparingly, as very little moisture will now be necessary to maintain plumpness, but do not let them become parched or shrivelled,

which is equally undesirable. In some cases their resting season in their native habitat is very dry, rain not falling perhaps for weeks at a stretch, but we must not forget that there is always sufficient dew falling during the night to revive vegetation after a day's hot sun. Thus the Orchids retain their freshness and vigour during the resting season, a condition of things which we should endeavour to imitate under cultivation.

Dendrobiums, or those of them which bloom in the Spring, having had abundance of air and light since growth was completed, will now have become nicely ripened and firm, and will require an exceptionally small amount of water. The flower buds of many are now becoming prominent, and especially will this be the case with D. Wardianum. Do not, however, on this account be tempted to encourage such buds to grow quickly by placing the plants in more warmth at this season, or the result will undoubtedly be badly or thinly flowered plants. Many of the buds would drop off or fail to expand, besides which the ensuing new growths would become drawn and weakly, eventually presenting a sorry spectacle.

This will apply equally to other species of this spring-flowering group, for all are best when not unduly hurried into bloom. Very few Dendrobiums can safely be made to bloom by Christmas or the New Year, though a few do so naturally, as D. moniliforme (japonicum) and its hybrids, D. × eudocharis and D. × Cassiope. Sometimes also various plants of D. nobile and D. aureum very conveniently condescend to flower at this early date, without requiring undue pressure, and when this is the case they are very welcome. A few hybrids having one or the other of these species for their parents may also be had in flower at this date, forming a charming little show, but the majority must be left to bloom at a later period, when flowers of a far better quality and substance may be assured.

Lælia anceps and its numerous varieties will this month be at their best, and how useful they are, none know but those who grow them well. Small weakly plants are generally disappointing, but well-grown specimens, having pseudobulbs of the maximum size and well matured, produce flower spikes freely, which in their turn give flowers of the finest substance and brilliancy in colour. It is really the easiest Orchid to grow that I know of if given the right treatment, ranking not even second to Cypripedium insigne, or to Cœlogyne cristata. Like the two latter it succeeds best when grown hardily. Insufficient air and light, and two much care and coddling during the summer months, generally keep these plants weak and feeble, and unable to give a good account of themselves when they ought to flower. These remarks apply also to a great many other species, including some of the Dendrobiums and Cœlogynes.

Cattleya Warneri is a species which, quite naturally, commences to make new growth during the winter months, and is now about to start,

a fact which becomes rather inconvenient when the plants have arrived at that stage where re-potting or basketing becomes imperative. I never like re-potting Orchids in mid-winter, but here we have an exception to the rule, and, as all Orchids succeed best if re-potted just as they commence to make new growth, and before the new roots become too active, so, therefore, should this particular one be taken in hand now, if it requires it. Potting should be performed with the greatest care, not breaking or otherwise injuring the roots more than possible, and, afterwards, giving the plant a light position in the warmest department, and keeping them pretty well supplied with moisture to induce quick growth. This species may also be re-potted immediately the new pseudobulbs are completed, which will be about May or June, as a fresh batch of new roots then make their appearance. I incline, however, to the first-named method, because, when repotted in the summer time, the plant has to be kept moist, in order that it may become re-established, whereas it should then be enjoying a good rest.

Cattleya Percivaliana is now producing its flower buds. One great failing of this species is that of the flower-buds not emerging from the sheath with reasonable freedom and regularity, as other species do, and, frequently, they die immaturely. This is particularly vexing, for when the pseudobulb of a Cattleya produces a sheath, in nine cases out of ten, a flower-spike follows. Not so, however, with C. Percivaliana; indeed, if fifty per cent. appear it is pretty good work. This immature decay of the flower-buds is more noticeable in smoky or town districts than in the purer air of the country, but in the latter it is also a common feature. I have noticed this peculiarity more particularly marked when the plants have been subjected to a very low temperature, and when the roots and surroundings have been kept too wet and stagnant, and this should be avoided.

When the deciduous Calanthes have done blooming they should occupy a shelf or some such position in intermediate temperature, so that a good rest may be assured prior to their again starting into growth. In a similar position, and for the same reasons, should be placed the Habenarias, which also enjoy a good rest, but which will not stand the same long drought as Calanthes, therefore a little water should be given now and then to prevent the tubers from becoming too much dried up.

Odontoglossum crispum is still the favourite amongst Orchid enthusiasts. To be really effective when in bloom, it must be grown absolutely well, and kept perfectly clean and free from insect pests, especially thrip and aphides. Good long spikes of bloom are then to be had, free from the blemishes and imperfections caused by the bites of these pests. When so seen no doubt O. crispum is a lovely Orchid. It is, nevertheless, oftimes

seen in anything but a flourishing and happy condition, and this is brought about by a variety of causes, such as too frequent re-potting, or keeping it too wet and soddened at the roots, more particularly in the winter time. Growing them too far away from the glass, where they are apt to become drawn, and an insufficiency of air at all times are also causes of deterioration, and the last named is, perhaps, the most serious of all. I do not believe in a very low temperature during the winter months, and prefer to keep the thermometer somewhere between the figures of 45° and 60°, though I always like to maintain this with a no inconsiderable circulation of fresh air. Of course, there may, perhaps, be a few days and nights when it is advisable to completely close the ventilators, but they are few indeed. During such mild, damp weather as we have been having, the wind should simply be allowed to blow about the foliage. It is no use whatever trying to grow O. crispum to perfection unless grown as hardy in this respect as possible. It is a species capable of great endurance, and detests being pampered up in a stuffy atmosphere.

Should severe weather make its appearance during this winter, remember that it is a good plan to cover exposed ends of the houses, and the roof glass, with garden mats or something similar. It not only saves the fuel, less fire heat being then required, but allows a more healthy temperature to be maintained. A good supply of sphagnum moss should be laid in, for it often happens that just when we require a good deal, in February and March, the frost prevents its being collected, and much valuable time is wasted.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

A MEETING of this Society was held at the Coal Exchange, Manchester, on November 10th, 1898, when many beautiful Orchids put in an appearance. The following members of the committee were present: Messrs. G. Shorland Ball (in the chair), Law-Schofield, Greenwood, Leemann, Gratrix, Weathers, Johnson, and Mills (hon. sec.).

Samuel Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed a very fine Cypripedium insigne Ernestii (First class Certificate), C. × Grovesianum, derived from C. × Lathamianum × Leeanum (Award of Merit), C. × Ashburtonæ giganteum (Award of Merit), C. × Leeanum aureum, and Lælio-cattleya × Amelia, derived from C. intermedia × L. cinnabarnia (Award of Merit).

Thomas Statter, Esq., Whitefield (gr. Mr. Johnson), showed Dendrobium bigibbum, Stand Hall variety, an exceptionally fine and very dark form (First-class Certificate), a fine D. Phalænopsis (Cultural

Certificate), Lælio-cattleya × Statteriana (Award of Merit), L.-c. × Ascania, Cypripedium insigne Johnsoni, a fine yellow form without spotting (Award of Merit) and C. insigne superbum. The same exhibitor also staged a very fine group of miscellaneous Orchids, amongst which the forms of Dendrobium Phalænopsis were particularly good and well-grown, and to which a Silver-gilt Medal was unanimously awarded.

Messrs. Charlesworth & Co., Bradford, showed Cypripedium × Jeanette (C. niveum × Leeanum), a pretty flower but somewhat small. (Award of Merit), C. × Lilian, and C. × calloso-barbatum.

Mr. John Robson, Altrincham, showed Cattleya labiata, Odontoglossum crispum, Cypripedium Charlesworthii and C. × Leeanum giganteum. A neat group was also staged by this exhibitor, which received a Vote of Thanks.

Fred Hardy, Esq., Ashton-on-Mersey (gr. Mr. Stafford), exhibited a small group, amongst which we noticed a good form of Cattleya × Hardyana and a very pretty Lælia prestaus alba. A Vote of Thanks was awarded.

At the meeting held on November 24th, the exhibits were numerous and of excellent quality. Present: Messrs. G. Shorland Ball (in the chair), Warburton, Bolton, Weathers, Backhouse, Cypher, Johnson, and Mills (hon. sec.).

G. W. Law-Schofield, Esq., Rawtenstall (gr. Mr. Shill), showed Cypripedium × barbato-bellum (Award of Merit).

S. Gratrix, Esq., Whalley Range (gr. Mr. McLeod), showed Cypripedium insigne, a large flower of ordinary markings and colour, but the dorsal sepal nearly flat and slightly frilled round the edge (Award of Merit), C. i. Baron Schröder, a very large form, with the dorsal sepal heavily spotted and the flower altogether much in the way of Harefield Hall variety (First-class Certificate), C. i. giganteum, also a yellow variety of the species, and C. Charlesworthii, a good dark form (Award of Merit).

G. Shorland Ball, Esq., Wilmslow (gr. Mr. Gibbons), showed Lycaste × Balliæ, a cross between L. Skinneri and L. plana Measuresiana, being a very striking flower with rosy, terra-cotta sepals, rosy petals fading into white at the tips, and white lip irregularly spotted with carmine (First-class Certificate); Lycaste Skinneri ashfordensis, a very large round form, with light pink sepals, rose petals, and pure white lip (Award of Merit), Odontoglossum Insleayi splendens, having brown petals and sepals with the edges slightly mottled with yellow, and a bright canary-yellow lip with large bright crimson spots round the edge (First-class Certificate), O. Œrstedii majus (Award of Merit), Cypripedium × Moensii (First-class Certificate), C. tonsum magnificum (Award of Merit), C. × Leeanum magnificum, C. × L. giganteum, and C. × Arthurianum pulchellum.

Thomas Statter, Esq., Whitefield (gr. Mr. Johnson), showed Cypripedium × Leeanum Albertianum (Award of Merit), C. insigne Johnsoni, a dark yellow variety of good form, and much improved since it was shown at the last meeting of the Society (First-class Certificate), and Cattleya × Hardyana Massaiana (First-class Certificate).

John Leeman, Esq., Heaton Mersey (gr. Mr. Edge), showed Cattleya × Victoria-Regina in excellent form (First-class Certificate), C. labiata, a large form with good, dark lip (Award of Merit), Lælio-cattleya × Gottoiana, Odontoglossum crispum, and Cypripedium × T. B.Haywood.

W. Bolton, Esq., Warrington (gr. Mr. Cain), showed two plants of Oncidium varicosum Rogersii, one of which had exceptionally large blooms and received an Award of Merit.

Messrs. F. Sander & Co., St. Albans, showed Cypripedium × Leeanum, C. × L. princeps, C. × nitens, C. × Theodore Buller, C. × John Carder (selligerum majus × hirsutissimum), a large flower of good form (Award of Merit), Phaius × Ashworthiana, and two forms of an unnamed Lælio-cattleya (C. intermedia × L. cinnabarina), one of which had very pretty lemon-coloured sepals and petals, and obtained an Award of Merit.

ORCHIDS AT THE ROYAL HORTICULTURAL SOCIETY.

THERE was again a fine display of autumn-blooming Orchids at the meeting of Royal Horticultural Society, held at the Drill Hall, James' Street, Westminster, on November 8th, the group exhibited by Messrs. Veitch & Sons being one of the best they have yet staged at this season of the year. The members of the Committee present were as follows:— H. J. Veitch, Esq., in the chair, and Messrs. J. O'Brien (hon. sec.), H. Ballantine, H. J. Chapman, De B. Crawshay, J. Douglas, H. Little, H. M. Pollett, T. Statter, F. J. Thorne, and W. H. Young.

The Right Hon. Joseph Chamberlain, M.P., Highbury, Birmingham (gr. Mr. Smith), exhibited a small group of choice Orchids, to which a Silver Banksian Medal was given. It contained Cattleya × Miss Endicott (maxima × Loddigisii), a very pretty flower with purple sepals and petals, and a paler lip strongly veined with purple, Lælio-cattleya × fausta delicata, L.-c. × Sallieri magnifica with six flowers, L.-c. × Semiramis, and a very pretty form of Dendrobium Phalænopsis.

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whiffen), also received a Silver Banksian Medal for a very pretty group, containing several fine forms of Cattleya labiata, one of which was white, with the disc of the lip purple, and another blush white with the front of the lip lilac; Cattleya × Mantinii nobiliar, Lælio-cattleya × Statteriana, and L.-c. × Decia.

H. F. Simonds, Esq., Woodthorpe, Beckenham (gr. Mr. Day), received a Silver Banksian Medal for a pretty little group, including Lycaste Skinneri alba, a well-flowered Masdevallia tovarensis, good forms of Cattleya labiata, Lælia autumnalis, Acampe papillosa, Odontoglossum grande, Oncidium Forbesii, O. varicosum Rogersii, O. crispum, and Dendrobium Phalænopsis.

R. I. Measures, Esq., Cambridge Lodge, Camberwell (gr. Mr. Chapman), exhibited Cypripedium × Wottoni (bellatulum × callosum) in excellent condition, to which an Award of Merit was given.

Sir Frederick Wigan, Clare Lawn, East Sheen (gr. Mr. Young), also received an Award of Merit for Cattleya Bowringiana Lady Wigan, a very fine form with lilac flowers, and a zone of deep claret-purple on the disc of the lip, the colour outside this being light purple.

Captain Holford, Westonbirt, Tilbury (gr. Mr. Chapman), showed a fine form of Cypripedium × Statterianum (Spicerianum × vexillarium) in which the dorsal sepal was very finely developed.

The Earl of Lisburne, Crosswood Park, Aberystwith (gr. Mr. Williams), showed a large and rich rose-coloured form of Cattleya labiata with some crimson veining on the front lobe of the lip.

Sir William Marriott, Bart., Down House, Blandford (gr. Mr. Denny), showed the pretty little Sophrolælia × Marriottii (Sophronitis grandiflora ♀ × Lælia flava ♂) with deep yellow flowers having some crimson-red markings inside the lip.

J. T. Bennett-Poë, Esq., Holmwood, Cheshunt, (gr. Mr. Downes), showed a raceme of the rare Vanda insignis.

Messrs. James Veitch & Sons, Royal Exotic Nursery, Chelsea, staged a superb group, to which a Gold Medal was unanimously awarded. It contained a large number of hybrids raised in the establishment, a series obtained from Lælia Perrinii as the seed parent, and another from Cattleya Bowringiana being particularly interesting. The former included Lælio-cattleya × Decia (pollen parent C. Dowiana), L.-c. × Lady Rothschild (C. Warscewiczii ♂), L.-c. × Semiramis (C. Gaskelliana ♂), and L.-c. × Statteriania (C. labiata ♂), and from the latter Cattleya × Chloris (C. maxima ♂), C. × Mantinii (C. Dowiana ♂), C. × Portia (C. labiata ♂) and C. × Wendlandiana (C. Warscewiczii ♂). In each case the influence of the seed-bearer was very strongly marked. Other hybrids shown were L.-c. × Nysa superba, the very distinct L.-c. × Ascania, L.-c. × callistoglossa ignescens, Lælia × splendens, Masdevallia × Imogen (Schlimii ♀ × Veitchiana ♂), M. × Ajax, M. × Parlatoreana, Miltonia × Bleuana, Cypripedium × microchilum, C. × Milo, C. × Leeanum Prospero, C. × T. B. Haywood, C. × Arthurianum and C. × A. pulchellum, C. × œnanthum superbum, C. × Niobe, C. × Euryades, and C. × Acteus (× Leeanum ×

insigne Sanderæ). Among the species were some good forms of Cattleya labiata, C. Dowiana aurea, C. Bowringiana, one truss bearing as many as nineteen flowers, Dendrobium atroviolaceum, D. bracteatum album, Brassia Lawrenceana longissima, Pleione præcox, a fine tuft of the pretty little Pleurothallis lateritia from Costa Rica, with brick-red flowers, Vanda Kimballiana, Catasetum fimbriatum, the graceful Ionopsis paniculata, Cœlogyne Veitchiana, the handsome Oncidium spilopterum, O. Forbesii, O. prætextum, O. varicosum, the remarkable O. dasytyle whose crest closely resembles a small black beetle, examples of Cypripedium Charlesworthii, and the two handsome albinos C. insigne Sanderæ and C. Lawrenceanum Hyeanum. The two latter were under bell glasses, together with a flower of the typical form for comparison, forming interesting features in a very striking group.

Messrs. F. Sander & Co., St. Albans, exhibited a plant of the handsome Cymbidium Tracyanum, Cypripedium × Jensenianum (hirsutissimum × vexillarium), and the curious Denbrobium chloropterum (Rchb. f. & S. Moore) a New Guinea species allied to D. atroviolaceum but having green flowers with some dusky markings on the lip. A Botanical Certificate was awarded to the latter.

Mr. James Douglas, Edenside, Great Bookham, showed a nice group of fifteen cut racemes of Cattleya labiata, showing the range of variation which occurs in this species in a very interesting way. A Bronze Banksian Medal was awarded.

At the meeting held on November 22nd, there was a slight falling-off in the Orchid exhibits, though a choice group came from the President's collection at Burford. The members of the Committee present were:—S. Courtauld, Esq., in the chair, and Messrs. J. O'Brien (hon. sec.), H. Ballantine, T. W. Bond, R. Brooman-White, H. J. Chapman, De B. Crawshay, J. Douglas, E. Hill, H. Little, W. H. Protheroe, A. H. Smee, F. J. Thorne, W. H. White, and W. H. Young.

The President, Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. W. H. White), staged a choice group, including Dendrobium × formoso-Lowii (formosum ♀ × Lowii ♂), an interesting novelty, intermediate in character (Award of Merit), Cypripedium × Argo-Morganiæ (Argus ♀ × Morganiæ ♂) a striking thing (Award of Merit), an unnamed hybrid from C. bellatulum with cream-white flower densely spotted with purple, Cirrhopetalum appendiculatum (Rolfe) from Sikkim, a solitary flowered species which was exhibited by Mr. Elwes on October 27th, 1896, without a name (Award of Merit), Calanthe × Bryan, bearing a splendid inflorescence of white flowers with claret-coloured eye, from a pseudobulb eight inches in circumference (Cultural Commendation), and a new hybrid called C. × labrosior, having white flowers tinged with blush on the lip above the pale primrose base (Award of Merit).

J. Bradshaw, Esq., The Grange, Southgate (gr. Mr. Whiffen), received a Silver Banksian Medal for a choice, well-grown group, including a very fine plant of Cymbidium × Winnianum bearing nine spikes (Cultural Commendation), a fine dark C. Tracyanum, Cattleya maxima, two fine C. × Mantinii, Lælio-cattleya × Apollonia (L. purpurata × C. Dowiana), Oncidium tigrinum, some fine O. varicosum, Odontoglossum × Andersonianum, Sopronitis grandiflora, &c.

H. F. Symonds, Esq., Woodthorpe, Beckenham, received a Bronze Banksian Medal for a nice group, including Masdevallia macrura, Cymbidium Tracyanum, Angræcum Leonis, Oncidium Forbesii, prætextum, tigrinum, and varicosum, Sophronitis grandiflora, Odontoglossum grande, Cypripedium × Leeanum superbum.

Sir W. Marriott, Down House, Blandford (gr. Mr. Denny), showed a home-raised plant of Lælio-cattleya × Clonia (C. Warscewiczii × L.-c. × elegans.)

F. W. Moore, Esq., Royal Botanic Gardens, Glasnevin, showed the rare Mormodes Lawrenceanum, and an orange-scarlet form of Masdevallia Veitchiana.

J. T. Bennett-Poë, Esq., Holmewood, Cheshunt (gr. Mr. Downs), sent a fine spike of Aërides Lawrenceæ and a six-branched inflorescence of Oncidium tigrinum.

Mr. J. Fitt, gr., Trumpet Hill, Reigate, sent a bunch of twin-flowered spikes of Cypripedium insigne, indicating excellent culture.

J. Lister Godlee, Esq., Whips Cross, Walthamstow (gr. Mr. Medcalf), showed a hybrid Cypripedium resembling × T. B. Haywood.

Mr. W. H. Holah, Richmond, sent a brown-tinted form of Lycaste Skinneri.

C. E. Harvey, Esq., Yardley, Birmingham, sent Cypripedium Charlesworthii.

Messrs. James Veitch and Sons, Chelsea, showed the rare Oncidium pectorale, a supposed natural hybrid between O. Marshallianum and O. Forbesii.

ORCHIDS OF TROPICAL AFRICA.

THE appearance of an additional part of the *Flora of Tropical Africa*, containing the first instalment of the Orchids of that region, was recorded at page 5. The rest of the Order was included in the second part, which appeared in April, and the third part, which was issued a few weeks ago, contains an Index and a supplement containing fifteen additional species. This makes a total of about 720 species at present known. Habenaria is the

largest genus, having upwards of a hundred species, after excluding Peristylis and Plantanthera, which were united with it in the *Genera Plantarum*. Bonatea and Platycoryne, which had recently been united to Habenaria, are also here kept separate. Satyrium also is strongly represented, being now credited with thirty-nine species, while twenty species of Disa are also found north of the tropic of Capricorn. Two or three of these are very striking, though none are yet in cultivation. A large number of novelties are described, and, from the vast tracts of country still imperfectly explored, it is pretty certain that the Orchid flora of this large area is not yet nearly exhausted.

ORCHID PORTRAITS.

CATTLEYA × MARONI.—*Gard. Chron.*, Nov. 5, p. 332, fig. 91; *Gard. Mag.*, Nov. 5, pp. 718, 719, with fig.; *Journ. of Hort.*, Nov. 10, pp. 360, 361, fig. 62.

CATTLEYA VELUTINA.—*Gard. Chron.*, Nov. 5, p. 533, fig. 99.

CYPRIPEDIUM CALCEOLUS, L.—*Rev. Hort. Belge*, Nov., p. 247, fig. 49.

DENDROBIUM SANGUINEUM, Rolfe.—*Gard. Mag.*, Nov. 19, p. 754, with fig.

MAXILLARIA STRIATA, Rolfe.—*Gard. Mag.*, Oct. 29, p. 705, with fig.

MILTONIA × BINOTI.—*Gard. Mag.*, Nov. 12, p. 736 with fig.

MILTONIA × BLUNTII LUBBERSIANA.—*Gard. Mag.*, Nov. 12, p. 736, with fig.

MILTONIA × LEUCOGLOSSA.—*Gard. Mag.*, Nov. 12, p. 736, with fig.

PACHYSTOMA THOMSONIANUM VAR PUNCTULATA, André in *Rev. Hort.*, Nov. 1, p. 504, with plate.

PAPHIOPEDIUM VILLOSUM, Pfitz.—*Rev. Hort. Belge.*, Nov., p, 253, fig. 53.

PHRAGMIPEDIUM CAUDATUM, Rolfe.—*Rev. Hort. Belge*, Nov., p. 251, fig. 52.

CORRESPONDENCE, &c.

(Correspondents not answered here may find replies to their queries on other pages, and in some cases, for various reasons, they have to stand over for a future issue.)

H.W.A.—A fairly good form, which may improve as it gets stronger. These secondary hybrids are becoming very numerous, and, when the parentage is lost, very difficult to deal with. We would suggest that only those which have some distinctive character, or that are improvements on existing kinds, should be named. Others may be kept until their character is clearly proved, after which, the inferior ones should be thrown away. All first crosses between species, however, we think should be recorded.

E.P.—There are several yellow forms of Cypripedium insigne, but none, we believe, equal to Sanderæ.

We have received a catalogue of Brazilian Orchids offered for sale by Messrs. John Cowan and Co., Gateacre Nurseries, near Liverpool, collected, it is said, in a district hitherto unexplored. One supposed novelty has been named Lælia Cowanii, and the plant is figured, but in the absence of flowers we cannot say anything about it.

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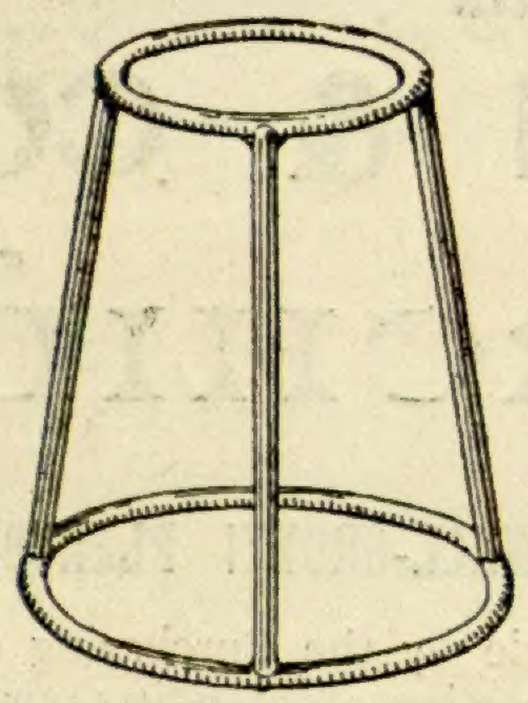

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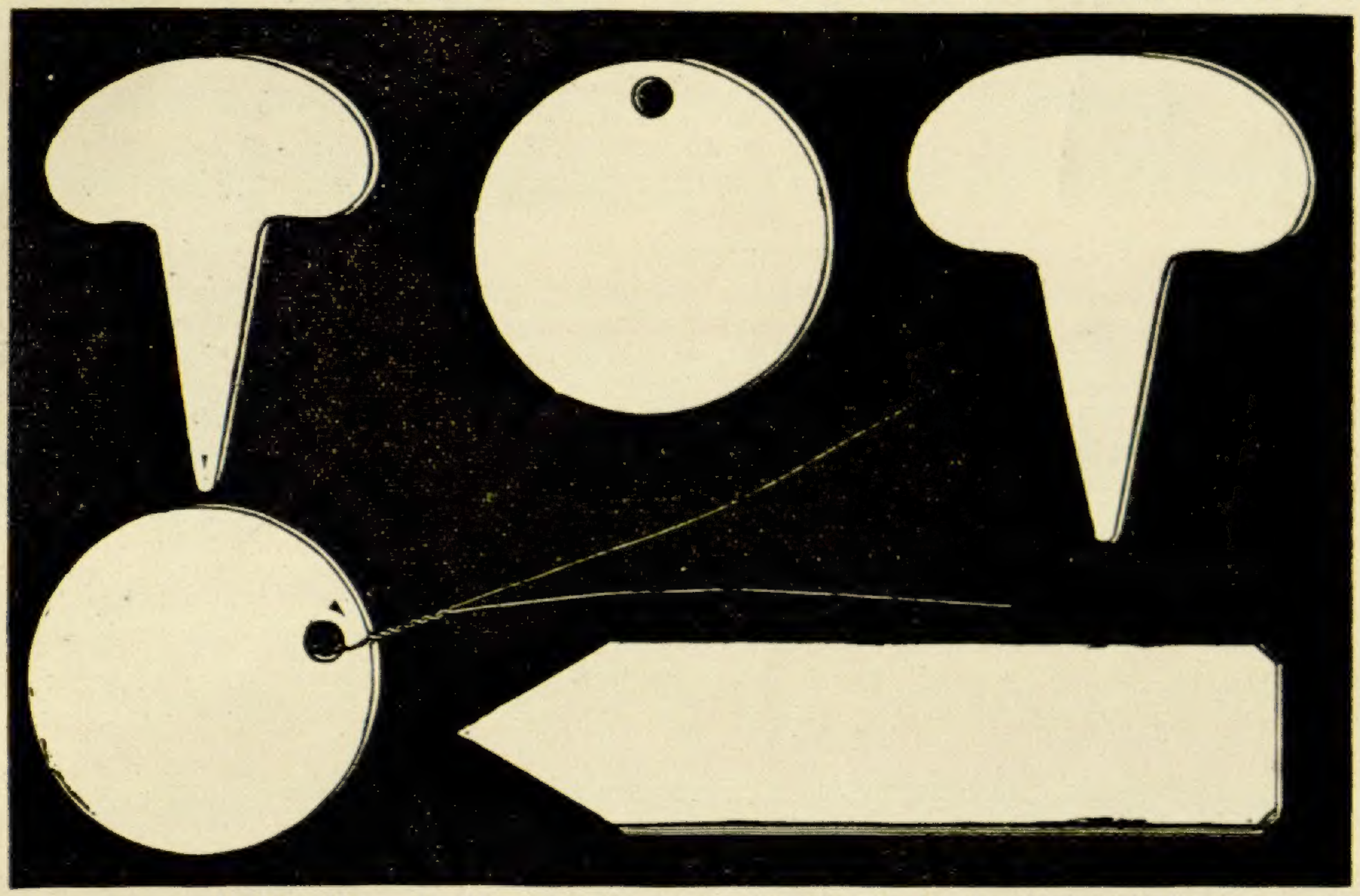

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